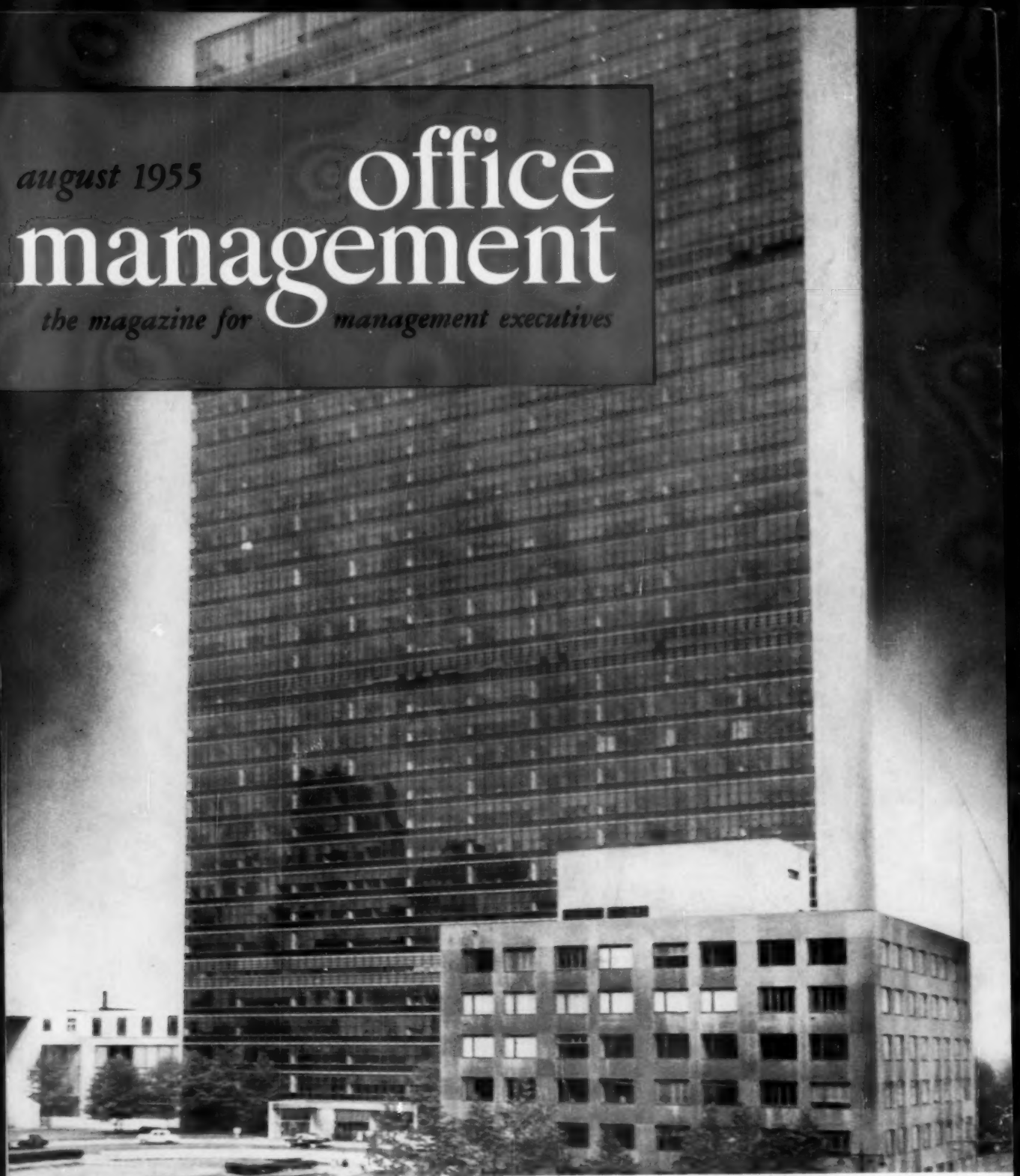
august 1955

office management

the magazine for management executives



United Nations Secretariat Offices—ten years of work for peace

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- Sylvania's new data processing center *—blueprint for tomorrow's office?*

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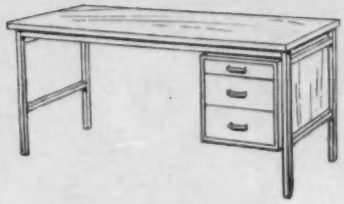

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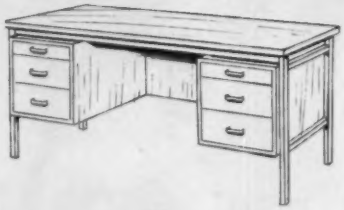

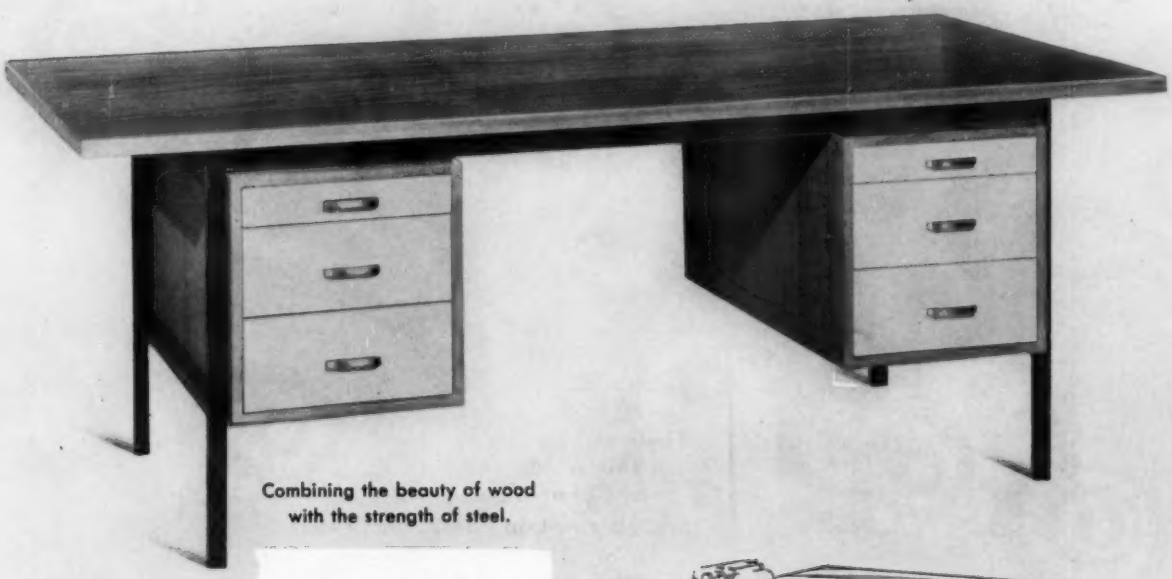

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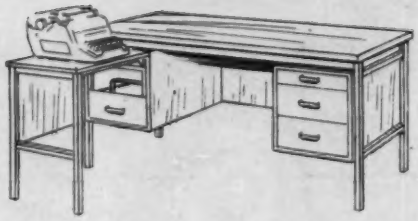

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office management

Office Methods, Equipment, Personnel, and Purchasing

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august, 1955

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COVER PICTURE

IN the recent celebration of the United Nations' tenth anniversary, no allusion seems to have been made to the fact that every working day of the year a strikingly practical demonstration of nations working together for peaceful ends goes on under the roof of the great United Nations Secretariat building in New York, where the paperwork of the United Nations is handled. But the flags were flying too for this towering office structure (incidentally one of the winners [1951] in *Office Management's* "Office of the Year" Awards).

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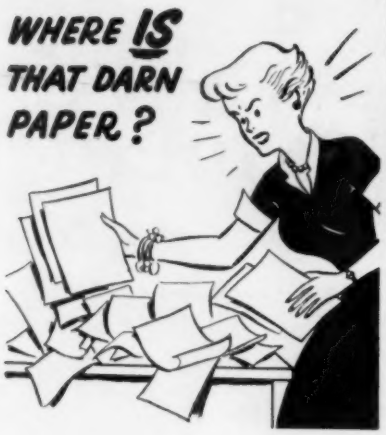

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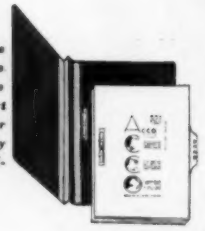

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Accounting principles need restudy, says G. O. May

Changed economic conditions require a re-evaluation of certain accounting principles, according to George O. May, CPA, retired senior partner of Price Waterhouse & Co., who stated his views in an interview published recently by *The Journal of Accountancy*.

In particular, Mr. May considered three basic assumptions as needing re-examination. These are:

(1) The monetary postulate, which, he says, "fails when changes in the value of money become too important to ignore."

(2) The postulate of permanence, which, he believes, is threatened by electronic discoveries that are making some industries obsolete. Mr. May observed that "there is nothing in accounting to say what shall be done when the whole enterprise becomes obsolete in the sense that it is incapable of earning a reasonable return on the amount invested."

(3) The postulate that all income arises at the moment of realization. Mr. May's view was that there have already been many breaches of this principle and that there would be more.

According to Mr. May, there are problems in making adjustments for changes in the value of money. No index, he declared, would be perfectly satisfactory. Nevertheless, he stated, "you would be more nearly right if you used any one of the indices than if you made no adjustment at all."

Recalling that even the concept of depreciation was a new one when he entered accounting 63 years ago, Mr. May cited the subsequent remarkable growth of production, widespread stock ownership, the objective of full employment with stimulation of investment, taxes affecting almost all transactions, broad pension plans, stepped-up research programs, and the advent of atomic energy.

"It would be miraculous indeed," he said, "if our former framework of assumptions were adequate to meet these new conditions."

Mr. May offered a look into the next fifty years of accounting. He predicted a greater degree of specialization in the accounting profession and greater stature for the accountant. More of them, he said, would become corporation presidents and board chairmen.

Mr. May was interviewed on the occasion of his 80th birthday. He was born in England, and he served Price Waterhouse & Co. on both sides of the Atlantic. He came to New York in 1897, when the title of certified public accountant had been in existence only one year.

AMA announces 1955-56 conference schedule

The American Management Association has announced the dates of ten regular divisional conferences during the year 1955-56. Of particular interest to office executives are the following:

Personnel Conference, to be held September 26-28, at the Hotel Statler, New York.

Office Management Conference, scheduled for October 17-19, also at the Statler.

Insurance Conference, October 26-28, to take place at The Palmer House, Chicago.

General Management Conference, planned for January 24-27 at the Hotel Fairmont, San Francisco.

Personnel Conference, listed for The Palmer House, Chicago, February 15-17.

Insurance Conference, to be given May 9-11 at the Hotel Roosevelt, New York.

General Management Conference, announced for May 23-25, also at the Roosevelt.

Three firms announce new office plans

Bostitch, Inc., manufacturer of stapling equipment and supplies, will move its main manufacturing plant and general offices to East Greenwich, R. I., 30 miles northeast of the present plant location in Westerly, R. I. A new and larger plant will be started this summer and is expected to be finished by fall of next year.

Burroughs Corp., business machines manufacturer, is beginning construction on a new building near Paoli, Pa., to accommodate its rapidly accelerating research and development program in electronics. The company is also leasing 10,000 square feet of space in another building in Paoli. According to President John S. Coleman, the new facilities "will provide additional space for experimental work on electronic

"The Thundering Herd"

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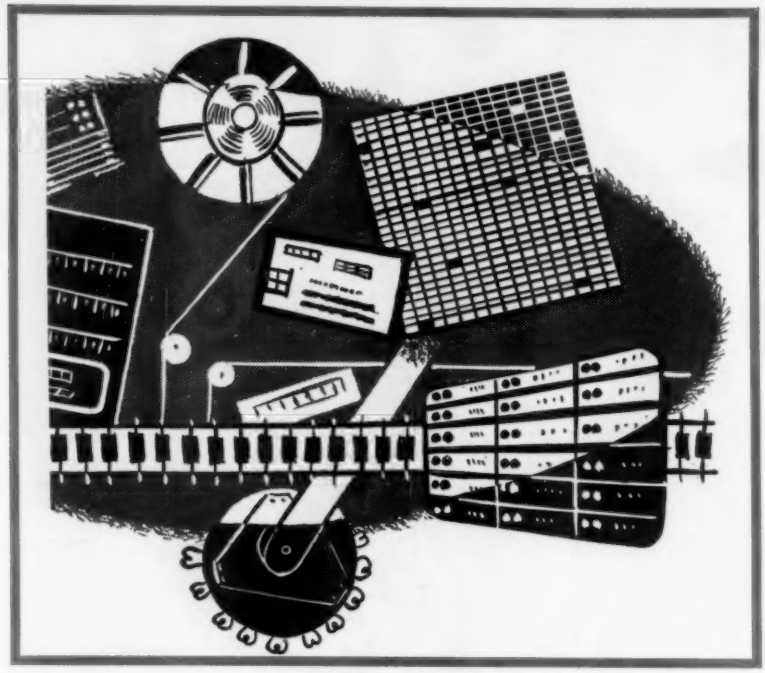

Spearheading the trend to
AUTOMATION IN THE OFFICE

AS far back as 1952, OFFICE MANAGEMENT began discussing the need for automation in the office with features by leaders in this field. OFFICE MANAGEMENT was the first business publication to introduce the phrase, "Integrated Data Processing" and promote it editorially as a basic function of good office operation.

Beginning with the January 1955 issue, OFFICE MANAGEMENT has presented and will continue to present the following features, in its role as Headquarters for "Automation in the Office":

- The special section, "Automation in the Office" which reviews each month the latest important aspects of the field.
- OFFICE MANAGEMENT'S "Tools of the Office" feature which has been stepped up to include complete coverage of the machine units designed for use in integrated data processing systems.
- Case Histories with detailed discussions of major developments such as the installations of data processing at the U. S. Steel Corporation and the Aluminum Company of America as well as the integrated data system installations in the smaller offices. Such automation authorities as Ralph W. Fairbanks are handling these analyses.

For what's new in automation . . . keep an eye on

Office Management

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computers and high speed devices for business use."

Fred Rudge, Inc., management consultant firm, has moved its headquarters to a suburban location at 63 Park St., New Canaan, Conn. President Fred Rudge explained that "Since travel to client plant locations is an essential part of our activity, it seemed desirable to establish home-office conditions that would eliminate the need for commuting when we are working at headquarters. This move means more precious time at home for all of us." Former headquarters were at 250 Park Ave., New York.

Books and Pamphlets

Inventories

Beginning with the statements that the inventory is frequently the largest item in the balance sheet and that the accuracy of profit shown for any period is often largely dependent on the correctness of opening and closing inventories, Frederick Staples, CPA, in a new book called *The Inventories,* sets out to define inventory practices "in plain terms."

Included in the books are discussions of pricing principles, "Fifo" (first in, first out), "Lifo" (last in, first out), and retail inventory methods, the form of inventories, what should be inventoried, retaining the inventory, controlling the inventory, verification of the inventory, and other related subjects.

The Inventories is published by The Counting House Publishing Co., Thiensville, Wis., and is offered at a price of $2.

AMA Publications

The American Management Association, 330 W. 42nd St., New York, includes the following among its new publications:

Assuring the Company's Future Today, No. 175 in the General Management Series, which contains the following papers: "Setting and Achieving Management Objectives," by M. R. Sullivan, president, The Pacific Telephone & Telegraph Co.; "Assuring the Company's Future: What the Chief Executive Should Be Doing Today," by Richard M. Mock, president, Lear, Inc., Earl Mendenhall, president, Sterling Electric Motors, Inc., Morris G.

Fuller, president, State Farm Life Insurance Co., and David Packard, president, Hewlett-Packard Co.; "Foundations of Planning for Growth," by Robert L. Chambers, president, Magna Engineering Corp.; "Laying Financial Foundations for Growth," by Peter F. Hurst, president, Aeroquip Corp.; "Product Diversification for Balanced Growth," by Gordon W. Mallatratt, general manager, Rheem Products Div., Rheem Mfg. Co.; and "Market Development for Growth," by C. Fred Breer, vice-president—sales, McCulloch Motors Corp. These papers were originally presented at AMA's General Management Conference held at the Hotel Statler, Los Angeles, January 24-27, this year. The book is priced at $1.75.

Company Practices in Employee Transfers and Relocation, Research Report No. 23. This report studies current practices in more than forty companies in handling the problem of assisting employees to meet the expense of relocating as a result of transfer to new assignments or of moving an entire entire group to a new location. It points out that many of the companies surveyed agree to the needs for assistance for transportation costs incurred in house-hunting, offering temporary living allowances in the new location, transportation for visits by the employee to the old location before his family moves, the costs of bringing the employee and his family to the new location, and the packing and shipping costs involved in moving household goods. The report is priced at $1.50.

J. Clydesdale Cushman, New York real estate leader, dies

J. Clydesdale Cushman, president and chairman of the board of Cushman & Wakefield, Inc., New York real estate firm, died at his home in Upper Montclair, N. J., after a short illness, on June 29.

Mr. Cushman was a former president of the Building Owners and Managers Association of New York (later merged with the Real Estate Board of New York, Inc.) and a past president of the National Association of Building Owners and Managers.

Mr. Cushman was 68 years old at the time of his death. He is survived by his wife, Mrs. Helen Cushman; his sons, John C. Cushman, Jr., and Robert W. Cushman; a daughter, Mrs. Kirk Usher; three brothers and three sisters.

With the editors—

"OFFICE PEOPLE talk a lot, don't they?", some non-office person said to us the other day, and in answering "Yes", we went on to point out that talk is especially valuable in the office management field when it takes the form of conferences, seminars, conventions and all the other meetings, formal and informal, which play so valuable a part in the advancement of office efficiency.

•

REPORTED ON in this issue or listed in the calendar of coming events which this magazine regularly carries (page 70 this issue) are a number of events which have brought or will bring people interested in office management together for that presentation and exchange of ideas which have during this generation brought the American office to a level of efficiency that other nations envy us.

•

AT MEETINGS of this kind one hears talking at its best from the point of view of communication of ideas. Here are facts and considered opinions of special current significance, presented in clear and concise terms for today's busy people. Whether it is one person speaking to many or many persons in discussion, ideas are born, or disclosed, which work themselves productively into the office management picture.

WE TALK, but the talking could hardly be improved upon as an instrument of progress!

•

A TRULY ALARMING ACCOUNT, from the point of view of the office worker interested in what he will be doing in the year 1980, has been done by Louise Levitas in the August issue of *Pageant* magazine under the title, "You Have been with us a long time, Smith!" In this look into the future, the office worker is seen to be in a bad way. "Seen" is really not the right word here, for according to the article the office worker will have practically disappeared by then.

This situation will have been brought about, the article says, by the wide-spread adaptation of automation. ". . . by 1980, the clerical or secretarial jobs which are now done by hand or with desk machines will be as obsolete as hand-weaving", the writer declares.

"The office of the future will be a relatively quiet, unpeopled place, but it will also be terribly efficient —machines don't need coffee breaks."

Thomas V. Mumford

Editor

Robert M. Smith, *Managing Editor* — Robert Beeman, *Associate Editor*

People in the News

EDWIN F. GOLDFUSS has been elected controller of the IBM World Trade Corp. Mr. Goldfuss has been with IBM since 1944, when he joined as a senior accountant.

ISAAC NAEYE has been appointed assistant treasurer of the Philco Corp. Mr. Naeye has been with the company since 1931, in various posts in the fields of corporate accounting and finance.

EDWARD F. JAMES has been named general office manager of the National-U. S. Radiator Corp., of Johnstown,

(*To page* 30)

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editorial

The changing office

WHEN management sits down these days to talk over the problems of the office, there are far more phases of the subject to be discussed than even just a few years ago. For the office is changing rapidly not only in its techniques of operation but especially in what it is called upon to do for the organization which it serves.

Its continuing growth and importance is testified to by the growing number of organizational executives who in one way or another have participation in its policy and procedures. Discussion and direction come not solely from those whose specialty is office management, but from groups representative of all divisions of the organization, in recognition of the truth that office work has no meaning any longer unless it is closely correlated to the demands of every phase of the activity which the organization carries on.

In top-level management circles the potentials of an efficient office are valued more highly than ever before. More of such executives than ever need to be alerted to significant trends and developments in the office field. What innovations are being provided in the tools and equipment of the office, in its systems and procedures, and in the fundamental motivating ideas? Narrow concentration on the office as just one department of many is out of date.

Broader participation of management in the affairs of the office is the order of the day!

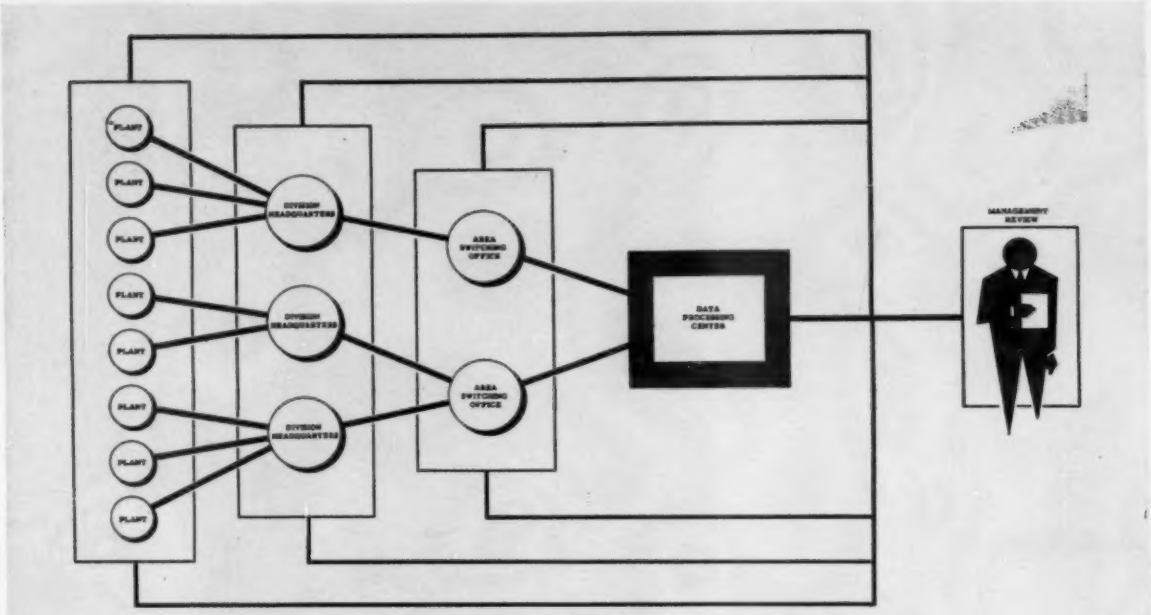

Chart describes proposed Sylvania data processing flow

Is this a blueprint for tomorrow's offices?

How Sylvania Electric's new electronic data processing center—the first ever constructed by a company solely for that purpose—was planned—

by Robert M. Smith

Edgar G. Dunn
Mr. Dunn, former manager of internal auditing for Sylvania Electric Products, Inc., has recently been appointed manager of the new Data Processing Center which Sylvania is building at Camillus, N. Y.

SOMETIME within the next several weeks, in the little town of Camillus, near Syracuse, N. Y., workmen will be breaking ground for a new building—a perfectly conventional small office building designed to meet certain highly unconventional ends.

The building will be the first office ever constructed for the sole purpose of serving as an electronic data processing center for a major American company — Sylvania Electronic Products Inc. Even its site represents the use of the new principles which are emerging so significantly in the business world today. The location near Syracuse was determined by means of linear programming, in which all the communications loads of Sylvania's many scattered applications were considered and evaluated to determine the one geographical point in the country where messages from all Sylvania installations could be delivered most efficiently, and with the maximum possible utilization of leased wire circuits.

What actually will be the purpose of the Data Processing Center projected by Sylvania? Will it mean that all clerical procedures will be centralized there?

Not necessarily. Sylvania, the first company to establish a Data Processing Center as an independent entity, does not visualize the center as taking over all the day-to-day clerical functions of the company. Rather its main purpose will be for the consolidation, summarization, and analysis of all information for use at all levels of management.

Thus, a warehouse in Chicago and a plant in Altoona will continue to carry out individual, self-contained, clerical procedures in independent ways, but the manner in which they report their data to various levels of management will be uniform, and this flow of information will be channeled to the new Data Processing Center at Camillus. In effect what Sylvania plans is a two-level data processing sequence, in which reports to all levels of management will be completely automated according to the principles of integrated data processing.

And, since Sylvania is a decentralized management operation, the whole concept of the automation system out-

Control panel of Remington Rand's UNIVAC, the type of data processor chosen by Sylvania planners for use at the new center at Camillus

lined for it is designed to re-inforce the decentralized management principle.

How does such a company go about planning a program? What factors does it take into consideration? How does it decide what kind of equipment to use? What changes in company operating methods are necessary?

Sylvania first made a survey to determine what might be accomplished by office automation. Like every other major American company, Sylvania had been concerned about its constantly increasing clerical costs. Although it did not feel its clerical costs were out of line with those of similar companies, it still found that the cost per employee and the number of employees were constantly increasing. And its systems planners felt that the same planning and control techniques which had proved effective in factory operations could logically be applied to clerical areas to increase efficiency and reduce costs.

But just as important as cost reduction in Sylvania's thinking was the need for management to have all significant information concerning company operations in complete form as rapidly as possible. This was especially a problem in Sylvania's instance because the company is composed of widely separated units producing a broad variety of products, so that the recording and processing of day-to-day information required by these units itself follows widely diversified patterns. Summarizing and analyzing this mass of diversified information was even more of a problem therefore for Sylvania than for many companies with a more concentrated and homogeneous operation.

Prompt reports essential

Yet Sylvania officers felt very strongly that present competitive trends make prompt reporting to management continually more important.

These being the conditions, a program of office automation was indicated, and Sylvania planners outlined as the purpose of the program:

"To apply the principles of office automation in all phases of our business where it appears practicable to do so, and to provide management with current up-to-date information, and to permit the application of the latest scientific techniques of management for analysis and control purposes. Though this program is company-wide in nature, it will be designed to permit our decentralized operating units to continue to exercise full executive responsibility at all levels of management and must be an aid to and not a substitute for, these responsibilities."

Within the overall automation program outlined for Sylvania certain stages or levels were set. The program was envisaged as a whole, so that all operations would fit into the overall context. The company was told by the program planners that the introduction

of office automation would often tend to change the logical basis of the work organization, that it did not simply represent an introduction of new techniques designed to produce the same reports in a faster and more efficient manner, but rather was an opportunity to handle business information in a new way to produce summary information more efficiently.

Also, the absolute necessity for the closest cooperation between the personnel planning the system and those who would be responsible for administering it was stressed. According to Sylvania's initial planning report:

"Until our systems technicians recognize our operating problems, they will not be able to grasp the application possibilities, and it will take the assistance and cooperation of all levels of management to bridge the gap between theory and application. It is not enough to determine what can be done, we must also critically face the problem of what we wish to do."

It was further emphasized that the most important result of the office automation program might very well be, not the automation of data processing *per se*, but the relief of administrative and operating personnel from day-to-day clerical problems, so that they could be free to give all their attention to problems of a purely managerial nature.

The program outlined for Sylvania envisaged all data above the day-to-day working requirements of individual installations being processed at a central point. For a national organization this meant that the problem would be complicated further by the need for a widespread communications network that could logically be tied into the data processing center to be established, so that data originating at a distant point could be automatically transmitted to the data processing center.

Three goals established

Thus, three main goals to be achieved in Sylvania planning were these:

Office automation—at all levels, including the lowest, where application of work simplification techniques to clerical effort would improve existing systems of operation and furnish a logical base for integrated data processing and transmission of data to a central point.

Integrated data processing — a method by which data or information, while being originated, produced as a by-product punched tape which could become permanently and readily accessible for use on an automatic or semi-automatic basis.

At the projected center, an electronic data processing system, consisting of a self-contained high speed computer capable of the multiple functions of data processing, including storing, sorting, collating and computing, as well as selective data summarization.

Each of the three goals represented a level—planned as part of an overall pattern — but to be achieved in sequence.

At the first level, work simplification techniques and forms consolidation would not only streamline the work of the originating office but would also simplify the problem of data transmission to the central point since originating information itself would be in consolidated form. This data, used for all necessary clerical functions within the originating point, would be processed there on machines that would create a by-product paper tape which could be relayed to Camillus for more extensive applications and management reports.

These represent the first two stages. The third would be processing of data at Camillus, not by conventional means but by a high speed electronic data processing system which not only would process data faster than ever before, but could prepare more extensive reports and analyses based on that data than was formerly possible.

Obviously, the critical link in the whole system was the communication flow, since so much of the entire emphasis in Sylvania planning was on the need for prompt current reports to management. And this need dictated establishment of a special purpose communication system tailored to Sylvania's requirements.

Requirements established for the system by Sylvania were these:

Flexibility. The company estimated that initial design of the communication system would meet Sylvania's needs for only a short time, after which it would have to be adaptable to change

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Overall view of a UNIVAC data processing system

Twenty-five years apart—rising skeleton of Socony-Vacuum Building against Chrysler Building, New York

"Office of the Year" winners to be announced in September

IN *Office Management* next month, announcement will be made of the six offices selected as this year's winners in the annual "Office of the Year" Awards, which have been given by this magazine since 1950.

In each of two categories—new or remodeled offices for 500 or more employees and new or remodeled offices for less than that number of employees, a silver plaque, symbolic of the "Office of the Year," will go to the office considered outstanding.

Two offices in each category will be designated as winners of the bronze plaques given as Awards of Merit to the runners-up.

In its November issue, *Office Management* will feature the six winning offices in illustrated articles, as part of its annual "Office of the Year" Awards issue.

The past year has proved to be a most prolific year for office building throughout the country.

Indicative of a continuing trend in metropolitan areas everywhere is the long-continued office building activity going on in New York, essentially on Manhattan Island.

In the eight years 1947-1954, the Manhattan total reached almost 9,500,000 square feet, said John J. Bennett, chairman of the Department of City Planning of New York City, referring recently to new office building space. And, Chairman Bennett went on to say, as quoted by James L. Holton, real estate editor of the *New York World Telegram*, "an additional 8,000,000 square feet of office space in Manhattan is either under construction or in the plans-filed stage."

The cosmopolitan flavor in offices

Rotary International, headquarters for 8400 clubs in 89 countries, brings colorful foreign flair to a wealthy and typical American suburb—Evanston, Illinois

EVANSTON, ILLINOIS, is a thoroughly American community, typical of the well-to-do residential suburbs that ring most of the nation's large cities. But it houses a new office where the theme is entirely cosmopolitan. Of the staff of 150 office workers, fifty are bilingual; twenty-two were born abroad. An international walk, built of stones native to various foreign countries, is part of the broad plaza before the office's main entrance.

For the handsome three-story limestone building is the new headquarters of an international organization—Rotary International, the association of the 8400 Rotary clubs which exist in 89 countries.

The new office—the secretariat, in Rotary's terms—acts as a clearing house for the Rotary clubs around the world, gathering information from all of them, and feeding news back to them. Within this general purpose, a host of activities are carried on: two monthly magazines, one in English, one in Spanish are published; the Rotary Foundation is administered; the organization's convention and regional conferences are planned.

The international note, symbolized by the "international walk" as one approaches the building, is maintained within it. The curving rear wall of the circular reception room is draped with flags from each of the eighty-nine nations in which Rotary is active, and the handsome board of directors' room is dominated by a large world map.

A unique room is the new headquarters office is the Paul P. Harris room,

General offices in wings extending from central part of the building are airy, spacious

Curved rear wall of reception area is decorated with flags of countries with Rotary clubs

Office of Herbert J. Taylor, Rotary International President from July, '54 to July, '55

which contains furniture used by the organization's founder in his office before his death in 1947, as well as a collection of his photographs and the mementos gathered by him during his work for Rotary. All of these have been arranged to duplicate as closely as possible the office Mr. Harris worked in in the former Rotary headquarters in Chicago.

A characteristic of the new office is the generous use of space in both private and general offices. Corridors are wide and open, and the general air of space and freedom is heightened by the wide window areas in both wings of the building. Lighting fixtures are fluorescent, with indirect lighting employed in some private offices and meeting rooms.

The headquarters building itself is unusual in shape, with two angled wings extending from a classically simple center section. The attractively landscaped grounds which surround the building provide parking facilities for the staff and visitors. Since the three story building itself occupies only one-quarter of the land, workers in the building have the benefit of green and pleasant lawns on all sides.

Within the secretariat's four divisions —Executive, Business Administration, Magazine, and Program and Service, many of the needs of the organization's 400,000 members are met.

Purpose of Rotary

The object of Rotary, as defined by the organization, is:

"To encourage and foster the ideal of service as a basis of worthy enterprise and, in particular to encourage and foster:

"1. The development of acquaintance as an opportunity for service;

"2. High ethical standards in business and professions; the recognition of the worthiness of all useful occupations; and the dignifying by each Rotarian of his occupation as an opportunity to serve society;

"3. The application of the ideal of service by every Rotarian to his personal, business and community life;

"4. The advancement of international understanding, good will, and peace through a world fellowship of business and professional men united in the ideal of service."

Within the framework of these principles, the organization has had a rapid growth. Organized in Chicago in 1905, its second chapter was created in San Francisco in 1908. In 1910 there were 16 clubs, and the first club outside the borders of the United States was organized in Winnipeg. By 1912, with clubs in Ireland, England, and Canada, as well as in this country, the International Association of Rotary Clubs—the beginning of the present Rotary International—was formed.

Latin America was soon represented with the creation of a club in Havana in 1916. Asia came in with the organization of a club in Manila in 1919; Europe was represented when Madrid formed a Rotary Club in 1920. South Africa and Australia completed the roster of continents in 1921.

For the past ten years Rotary Clubs have been organized throughout the world at the rate of more than six new clubs every week.

So the Secretariat in Evanston—together with sub-offices in London and Zurich, Switzerland—is responsible for services to a large organization which is rapidly growing larger. In its new establishment in Evanston, it has all the facilities of modern office planning, layout, administration, and equipment to enable it to continue to keep those services functioning smoothly.

The Board of Directors Room, with its large map of the wor ld, and photographic panoramas, has both dignity and beauty

Techniques for municipal paperwork control

by Herman Limberg

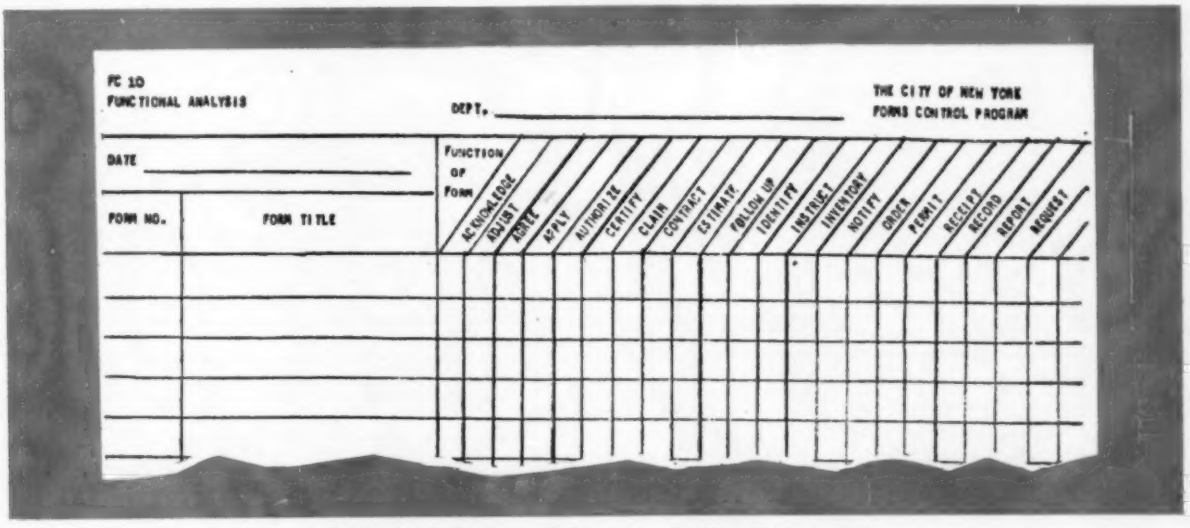
Coordinator, Forms Control and Records Management Programs, Division of Analysis, Office of the City Administrator, The City of New York

RECORD MAKING and record keeping began with Adam and Eve, but it was some time after they had tasted of the apple that mankind invented various means of inscribing data for accumulation and posterity. Gradually, the evolution from chiseling in rock to writing on papyrus and ultimately to writing on paper led to the paperwork problems which confront us today.

The introduction of scientific management by Frederick W. Taylor, at the turn of this century, emphasized the importance of *facts* and accelerated the accumulation of recorded data. The subsequent emergence and development of office management as a field of major significance may be attributed primarily to the interaction of the three P's—People, Procedures, Paperwork.

Paperwork and records are synonymous where even the shortest period of retention is required. As the volume of records continued to grow, facilities for their maintenance were provided either by procurement of additional space and equipment or by sporadic disposals of old records without regard to their value. Neither recourse was efficient or economical. Born of necessity and impelled by the force of evolution, Records Management made its debut less than fifteen years ago. First instituted in the area of public administration by studies and recommendations of the Hoover Commission, the techniques and benefits of records management were later carried into business administration.

In the broadest concepts, records management entails everything that affects, and is affected by, paperwork—control over the creation, design, adoption, use, maintenance, preservation and disposition of records. Thus it includes systems, procedures, methods, form design and control, office mechanization and automation. It is frequent-



A form that helps control forms, in the New York program

New York's Municipal Building, center for the programs.

ly preferable, however, to institute and administer each of these phases separately until sufficient progress is made to integrate and coordinate them into one overall program. In any event, the initial phases of records management which lead to an orderly plan for retention and disposition of records and for effective utilization of filing equipment and space should comprise the first element of attention and action. Since the objective of these first steps is to "clean house" and install good housekeeping practices, the necessary action should logically precede all other phases. Records "birth control"—a popular catchword for form design and control activities—should be installed shortly thereafter.

Forms are both *tools* of administration and *end products* of office work. In the factory, tools are designed by engineering technicians who fully understand and appreciate their significance in production. In fact, this nation's incomparable achievements in industrial production are attributable to our concern with and ingenuity in designing effective tools. The turnover of our factories' end products is a measure of our success in business. In the office, however, we have but recently applied engineering techniques to "tool design," but our end products are produced in multiple copies which we cherish and retain with a parental affection. Instead of turnover, we all too often measure our accomplishments in terms of bulging file cabinets. Form design and control techniques are essential to efficient and economical production and use of the tools and end products of the office; records management is the means for establishing and maintaining proper turnover ratios.

City's control program

New York City's records management and forms control programs illustrate the techniques of controlling paperwork. Following is a description of each of these programs.

The Records Management Program of The City of New York is jointly directed by the Office of the City Administrator, the Bureau of the Budget, the Office of the Comptroller, and the Municipal Archives Committee. Administration of the program is centralized in the Division of Analysis, of the Office of the City Administrator, which is responsible for training departmental records officers, developing pertinent standards, and coordinating the program.

Program administration consists of defining objectives, securing top management approval and support; interviews with department heads to explain the program and invite their participation; designation by department heads of personnel to direct the program within the departments; training of such personnel, development of standards; organization of coordinating committee; and follow-up through progress reports, field visits, conferences, etc.

This program had its inception in the appointment in 1939 of the Mayor's Municipal Archives Committee whose original function was the preservation of historical papers. Since that time the archives unit, established in the Rhinelander Building on William Street in Manhattan, was expanded to include the housing of inactive records in the Records Center in the same building.

In 1950, the Mayor's Committee on Management Survey retained a firm of consultants to conduct a records management survey in five pilot departments. Guided by these consultants the City established the modern Records Center which is the key factor in the program. Upon completion of the pilot studies, the Division of Analysis (which was then in the Bureau of the Budget) reviewed every aspect of this activity, developed further improvements, organized the present program, and prepared a manual of procedures.

Each agency of the City government was invited to join the program by designating a records officer who received intensive training in a series of weekly two-hour conferences. After the first

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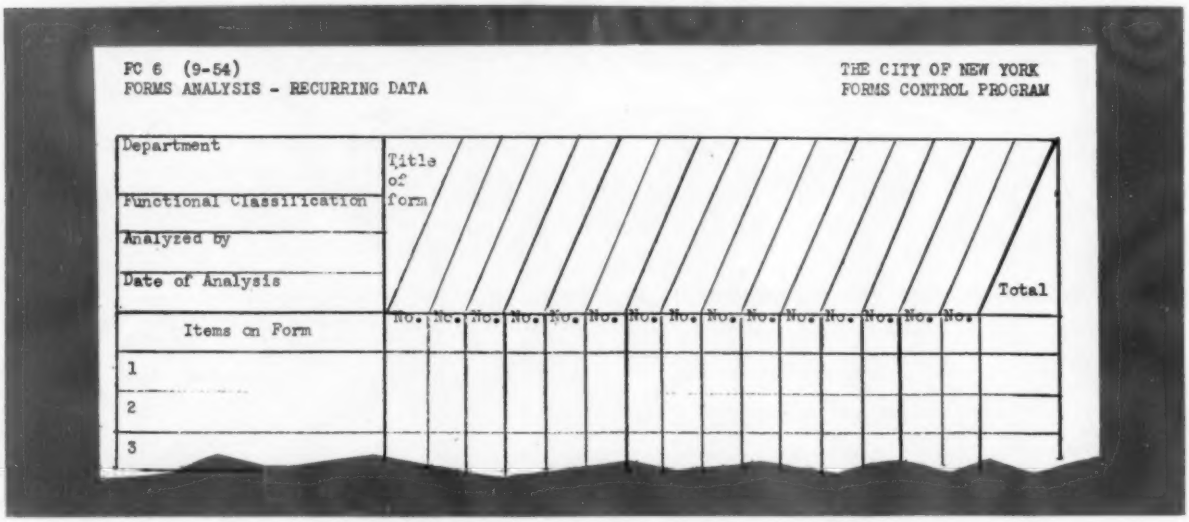
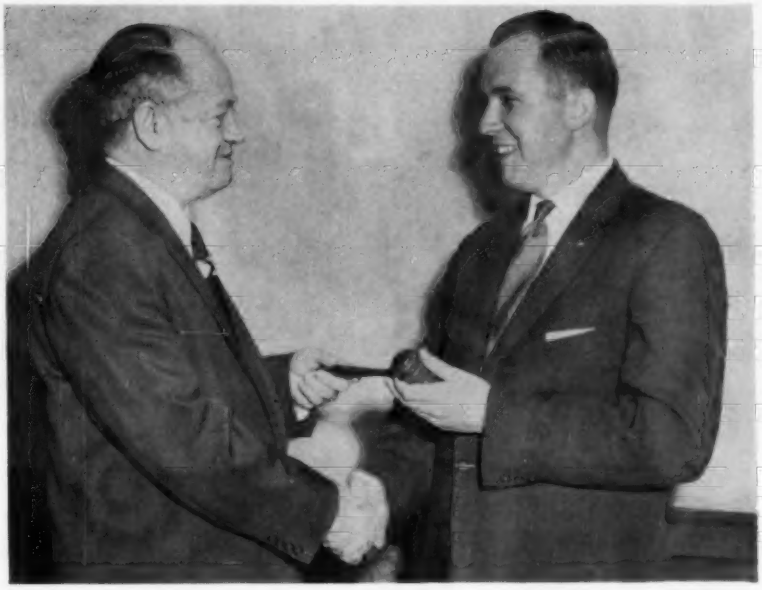


Another of the charts used to coordinate and minimize forms



Above: Opening day session L. to R. NMAA president, Richard Irwin; Robert Slater, John Hancock Mutual Life Insurance Co.; convention chairman, Harold Hatch. Right: Past President Irwin (right) presents gavel of office to President-elect Robert Cross.

Obsolescence no danger in electronics, NMAA told

Panel speakers (l. to r.) R. M. Gilmore, J. W. Pontius, B. C. Connelly

Punched card methods may not be adequate for use with electronic data processing devices, Slater, of John Hancock warns machine accountants meeting in Boston

OBSOLESCENCE is no longer a major factor to be considered in deciding whether purchase or rental of electronic data processing equipment is preferable, Robert E. Slater, vice president and controller, John Hancock Mutual Life Insurance Co., told delegates attending the Fourth Annual Conference of the National Machine Accountants Association, held in Boston, June 15-17.

"All indications point to the fact that manufacturers will have to up-date equipment presently in existence when they come out with something new," Mr. Slater declared. "As you know one manufacturer has recently announced that it will do this very thing."

Discussing "What Management has Discovered about Computers," Mr. Slater declared in the opening speech of the conference that electronic devices probably spell the end of punched cards for the storage of accounting and statistical data.

"There does not appear to be any way in which punched card equipment can be speeded up so that work will be processed on the order of the micro-second and milli-second speeds of electronic devices," he declared. "Punched cards just do not show up as an inexpensive method of record keeping in comparison with newer methods being introduced. Some meth-

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Registration scene . . .

. . . and opening of technical session

Data processing panel speakers. L. to r.: J. Elliott, J. Gibbons, S. Atkinson, chairman; J. Kalbach, R. Fairbanks, J. Thomson

E. J. Hanley, Alleghany-Ludlum Steel, delivers opening address

Accountants move into planning, NACA hears

Accountants today moving into field of statistics, have role to play in operations research, speakers declare; panel group outlines improved data processing methods

THE ROLE of accounting personnel in the long range planning which is becoming more and more important in the American business picture was emphasized by speakers at the 36th International Cost Conference of the National Association of Cost Accountants, held in New York at the end of June.

More than 2500 attended the four-day conference, held at the Waldorf-Astoria.

The cost accountant of today finds himself moving further and further into "fields formerly pretty well preempted by the statistician," E. J. Hanley, president of the Alleghany-Ludlum Steel Corp., Pittsburgh, told the group in the first address of the conference.

"For one thing the cost accountant finds himself more and more often resolving questions as to the future financial results of certain moves suggested by management," Mr. Hanley said. "He begins to deal more and more in futures. It is to be expected therefore, that he will find himself becoming more and more involved in the job of helping management keep abreast of changing times."

This represents the forward planning area of accounting, the speaker said, and involves the cost accountant significantly in the future plans of the company.

This trend will accelerate with the entry of new and more versatile machines into the accounting field, Mr. Hanley said, because many of these machines will help management reach decisions as to which of several alternative plans or possibilities is best. Since the cost accountant is the "custodian" of the business machine department, this will bring him into even more intimate contact with the future planning of the company.

The second speaker on Monday, June 19, the opening day of the conference, developed the same theme, stating that the accountant plays a vital role in long term planning since he is responsible for the essential field of budgeting.

"Long term planning," William C. Wickman, vice president and general manager, Industrial Power Components Division, General Electric, told the group, "is the process by means of which the business manager, or management team, first arrives at the long term objectives; then determines the cost of financing and the precise methods and program to be followed, in setting up and bringing into successful operation the organization, personnel and facilities required to meet those objectives."

The speaker went on to say that a business enterprise must have objectives which are vital to its successful conduct. These objectives must be specific and tangible, and they must be attainable with the resources, personnel and facilities that can be mobilized by the company. They must be subject as well to definite measurements, and here the accountant plays the major role.

"The accountant's role in the targets

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CASE OF THE MONTH

Automation comes to personnel selection at New York agency

Punched card selection matches right people to right jobs

A PHASE of automation today is taking "guess work" out of the complex field of job placement through employment agencies.

Now, for the first time, faulty human memories and tedious fingering of files to locate the right people for the right job are being successfully and inexpensively replaced by fast automatic equipment. The key is small punched cards on which the entire business experience and background of an applicant can be marked by as few as 28 holes.

Authorities behind this new development in the employment agency field are Maxwell Harper and William Hertan, Harper Associates, 180 Broadway in New York. Together, these men represent over 45 years experience in the personnel field. Harper Associates has pioneered in the adaptation of the Underwood Samas Automatic Punch and Selector to the business of bringing together the employers who buy services and the applicants with services to sell.

"Using this automatic equipment, employment agency 'guess work' and hours or even days of searching old applications are a thing of the past," Mr. Harper said. "Applicants no longer have to depend entirely upon impressing the interviewer to be remembered when an opening develops. Now, so long as they have the qualifications, the machine will automatically bring them up for consideration for *every* good job. The system is beneficial to everyone involved, the employers, prospective employees, and those who bring the two together.

Irene Beyer, of Harper Associates, can search applicant list at rate of 40,000 per hour

"Accuracy in selection has been increased over present methods by 90 per cent. Speed of finding people for jobs has been bettered by at least 200 per cent. Within minutes, thousands of potential prospects for jobs can be scanned and the likeliest candidates brought to light."

The small Samas card has a total of 960 positions. Each can be punched to indicate the qualifications of any personnel listed by an employment agency. Harper's has not yet found it necessary to use all the positions on the card to select likely candidates. Actually, from 20 to 45 holes are sufficient to record age, education, marital status, salary desired, ability to relocate or travel, and most background experience and skills, including ability to speak or read different foreign languages.

The punched cards are kept in a current file until a firm contacts the agency looking for the right man or woman to fill some opening. Immediately, the Automatic Selector searches through all available applicants at a rate of 40,000 cards an hour and selects those best qualified.

The system works the other way, too. Harper Associates are constantly reviewing their files to promote outstanding job candidates.

During the past month a manufacturing firm got in touch with Harper Associates with a request for a sales engineer. The management wanted an older man, one who had been in business for himself and would have mature yet progressive ideas. The Selector was put to work. It came up with just such a man. He was in his mid-fifties. The experience specified and all the personal attributes were there. Client and applicant got together in the Harper office, where the deal was consummated that same afternoon.

"White collar" specialists

Harper Associates specializes in white collar placements from presidents to office boys. On their lists are 40,000 candidates for business positions, and this list of men and women is growing daily.

Recently the office received a request for an industrial engineer for a national concern. The man desired was to handle time studies and needed a background in the metal working industry. The client urgently needed to fill the position. Applicants had to report the following morning.

"After running our cards through the Selector, we came up with four men, one of whom had not been in touch with our office for many months," Mr. Harper said. "All proved to be currently available and interested. That same afternoon they were referred to the position. One was accepted and started work the following morning.

"Normally, this process would have taken a great deal longer at even the best run agency. It would have been much harder to find the applicant who registered so long ago. And he happened to be the one who got the job. We found him in five minutes and with great success."

The automatic equipment is especially useful in sorting out specific industry background and experience skills. If the machine does not find the perfect candidate on the first run, it can be reset to pick out those next best suited for the position.

A public relations man, for instance, was desired with experience in the aircraft industry. At first a man could not be found in that exact category. Set again, the Automatic Selector came up with a public relations man who had been an airplane pilot during the war. He got the job.

"Salesmen are not hired simply because they can sell," Mr. Harper said. "A client wants a man with experience in certain fields, one who knows customers, their demands, likes and dislikes. We have found the Automatic Selector invaluable in finding the different background experiences desired."

Adaptation of automatic selection to the employment field has long been sought, particularly in large urban centers where employment agencies play such an important role. The task seemed insurmountable.

One of the biggest problems is the enormous variety of entirely different jobs in our complex society today. The Dictionary of Occupational Titles issued by the Federal government during World War II lists more than 30,000 jobs. Enormous turnover is another major problem. In New York alone it has been estimated that more than a million people change jobs or become

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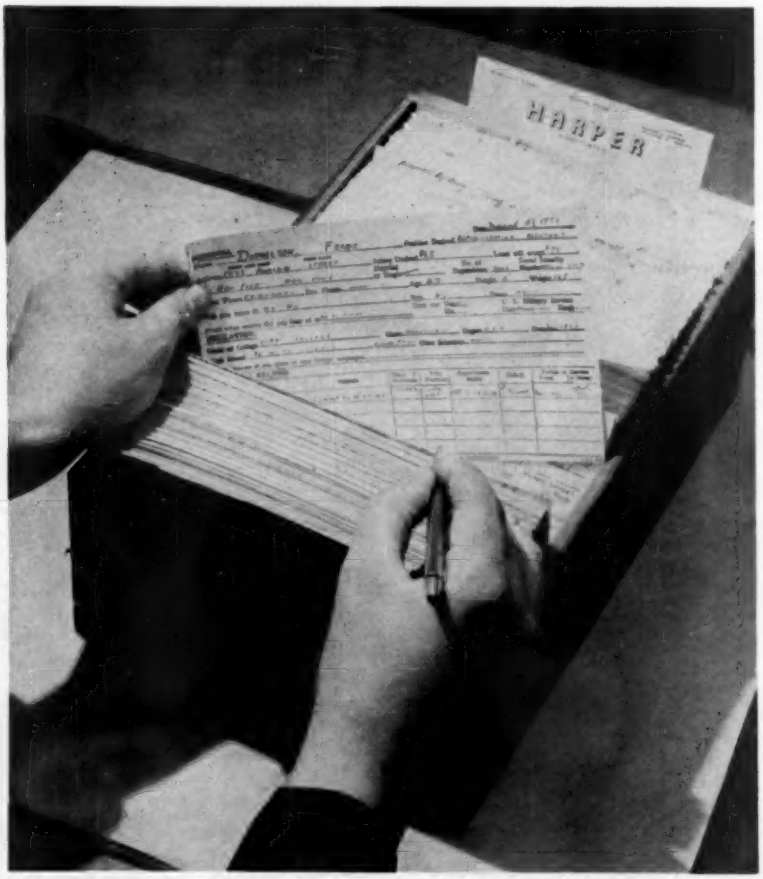

Manual search had to be made before punched card method was introduced

Don't be afraid of incentive plans!

Financial incentive plans, always a success in the factory, can be equally effective in clerical work

by J. Rodney Swetting,
Norris and Elliott, Inc., Management Engineers, Columbus, O.

MANY TIMES office workers feel that they are not compensated in proportion to their value to the company and that pay raises are received only when a general increase is given. Frequently such increases go with a general plant increase. We seldom hear of a general increase in office-workers' compensation without an increase in plant rates but the reverse is true in plenty of cases. Sometimes an individual employee is successful in getting a raise that is related to ability and accomplishment, but it may be for other reasons. In banks, insurance companies, credit companies, and wherever else office employees are predominant in number, compensation increases usually follow a local pattern.

Few in this group are given an opportunity to increase their income through financial incentives based upon productivity, yet they respond to financial award just as readily as plant workers.

Incentives are uncommon in offices for one or more of eight reasons:

1. Employees do not press for participation in an incentive program
2. There is insufficient interest on the part of management
3. Employers believe the nature of the work does not lend itself to satisfactory work measurement
4. The necessary record-keeping appears to be burdensome
5. Management doubts the effectiveness of an incentive plan in increasing the volume of work at lower labor costs
6. Cost of measuring work, preparing standards, and developing a plan seems difficult to offset by possible savings
7. Managers believe such a plan is not feasible unless all of this group of workers can be covered
8. Management does not know how to approach the problem or develop a workable incentive plan.

Many forms of incentive are effective to some degree in bringing about improved labor relations, reduced labor turn-over, work simplification, and lower costs. Some companies have profit-sharing plans, or pay some form of bonus at the end of the year. Regardless of how such plans are set up, they serve primarily as "shots in the arm." Everybody is glad to get a bonus, but the effect usually wears off long before the year is over. Perhaps the biggest objection from employees is that "the ride up" is fine (like any inflation) but the fall is hard to take. If the bonus is large, and keeps on increasing, the employee takes on new commitments, only to find that he has become overextended and cannot keep up the pace when company profits fall and bonuses remain only a pleasant memory.

Merit rating is another form of fi-

Incentives give financial benefits to management and employees

nancial incentive used by some companies. This implies job evaluation also, or the basis of merit award is weakened. The administration of such plans is all-important; a rate range with increases based upon a supervisor's judgment is open to serious abuse. Without a formula for comparison, such a plan is doomed to fail.

Measurement always valuable

Even under merit rating, work measurement is extremely valuable. It offers a means of determining the ability and willingness of a worker to turn out a satisfactory amount of work even though no direct incentive wages are paid. Overall performance should be the principal factor in merit awards. There is not much merit in the work of a girl who produces better than 60 minutes of work in every hour she works, but who spends two hours each day in the rest room. Work measurement, with performance control and incentive wages, soon takes care of such problems in the office, as well as it does in the plant.

Promotion is another form of financial incentive. In this case ability to do an up-graded job, length of service, stability, and plans of the individual all have a bearing on the selection. Still an individual who is a below-average producer is in a poor position to expect promotion.

There should be some form of work measurement in any equitable plan for increased compensation, whether the increase comes through merit-rating, periodic increases, or a wage-incentive plan based upon productivity.

Many studies of worker motivation and incentive have been made. Fairly typical is a study described in a bulletin published by the University of Illinois, in which 325 workers ranked 10 non-financial incentives as follows:

1. Steady work
2. Comfortable working conditions
3. Good working companions
4. Good supervision
5. Opportunities for advancement
6. Good pay
7. Opportunities to use own ideas
8. Opportunities to learn the job
9. Good hours
10. Easy work

Although many employers feel that workers are interested only in high pay and easy work, this survey does not confirm their beliefs since "good pay" ranked sixth and "easy work" was tenth in order of importance. There is another non-financial incentive that perhaps has not been given the attention it should. It might be included as a phase of "easy work." People who are kept busy are not usually the ones to get into trouble.

The Business Management Service of the University of Illinois reported a study of 2700 workers who had resigned and were interviewed later. Nine per cent reported that they had quit because they did not have enough work to do.

The effectiveness of a given incentive varies with different employees and with the same employee at different times, depending upon economic conditions, availability of work, personal problems, and even moods.

The average employee works to make money to provide for the wants of himself and his family. In some cases the needs are great; in others they are small. Even where the urge to make more money for what it will buy is not strong, the desire to increase one's income seems to be a motive for greater achievement—possibly because it seems to serve as a measure of success.

Production incentives

One of the fairest and most generally satisfactory means of providing increased earnings is the production incentive plan, because it continually encourages the worker to improve efficiency to maintain a satisfactory output, and usually to do a better job. Less time is lost in conversation, loafing, and day-dreaming. More working hours become productive. In many cases, there is little increase in the rate of production, but unproductive time is reduced.

The basis for any production incentive plan is work measurement, which is also valuable for performance control, even if no direct incentive wages are paid. There must be a yardstick, or standard of performance, that will measure the amount of work that can be expected from an employee; this may be a line of typing, a key-stroke count, an invoice, time card, account, statement, calculation, letter, tabulating card, or check. Here are many kinds of standards, some based upon past performance, some on an overall timing method, and some on an elemental time-study procedure.

Usually office managers are not satisfied with production records as a true measure of work load, nor are they satisfied with an overall time clocked against an operation. In most instances, they demand more detail than either of these methods provides, so motion-time study is used.

Some office work is difficult to measure, and a good deal of experience and ingenuity may be required for the task; other duties are easier to measure than some plant operations that are measured in routine fashion for incentive pay.

Many office jobs are extremely repetitive, and many others can be changed to make them more repetitive. Watch almost any typist; even clock a stenographer taking your dictation and see how the average time per word, line, page of notes, or square inch of

transcribed letter will work out. The uniformity of results is sometimes surprising.

Variations in time for filing are less than the variations in some manufacturing jobs especially with multiple variations of size or product.

What jobs can be measured? Here is a list of some of them:

1. Typing in almost all its forms
2. Dictation
3. Filing
4. Operation of mimeograph machines, addressing machines, and other office machines
5. Preparation of invoices and shipping papers
6. Posting stock records
7. Posting accounts, machine bookkeeping
8. Preparation of production records
9. Payroll computations
10. Operation of tabulating machines, including key-punch and sort machines.

Now comes the big practical question: How many workers must be performing an operation to justify the cost of time-study and production incentive application?

Cost against return

There is no rule other than the one used in making any investment: Compare cost against probable return. It should be remembered, however, that many indirect benefits accrue from such a program in addition to the direct labor saving.

Overhead is reduced, because fewer employees require less office space and equipment for a given volume of work. The costs of Social Security payments, insurance, pensions, vacations and other fringe benefits (approximating fifteen per cent of the wage bill), as well as supervision costs, are reduced.

Personnel turn-over is reduced because of higher earnings; in turn, selection, employment and record keeping costs are reduced. Interest in work simplification, improved procedures, and high efficiency is intensified. Work loads are equalized. Salary control is better. Morale, pride of accomplishment, and competitive spirit are increased. The quality of work is better under simplified, organized procedures and job instructions. Measured work simplifies determination of personnel requirements for known work loads; therefore it is easier to handle peak loads. Supervision is better.

What is the usual productivity of office employees without incentive wages or measured work control? Ordinarily it is about the same as in the average day-work plant—about 40 to 45 minutes of work produced each hour, as against a standard of 60 minutes to earn the base salary, and a possible 70 to 80 minutes per hour under incentive pay. From this we see a possible increase in production of from 60 to 75 per cent, an increase in employee earnings of from 20 to 30 per cent, and a decrease in labor cost of from 25 to 30 per cent.

A cost of from one to eight per cent of the payroll cost is required for record keeping. A total of ten per cent is satisfactory for maintaining the incentive application, considering the savings potential.

A net payroll saving of 20 per cent is, therefore, a reasonable expectancy.

Incentives force standardization, standardization forces work simplification, which is putting the cart before the horse. Any company can profit by a study of procedures, work assignments, reports and forms, but this work seldom receives the attention it should unless an incentive program is under way. Such a program should include work simplification and standardization and it makes job instructions imperative. All of these bring about cost reductions.

Things to be considered and studied are the types of tables, desks, chairs, machines and accessory tools used, lighting requirements, as well as the placement of work, racks for paper and forms. A study of forms can result in surprising benefits. Most companies have more forms than are required, many poorly designed. A form to be filled in on a typewriter should be designed to minimize key strokes and shifting. If the time required for key strokes is less than half the total typing time, redesign of the form is indicated.

One insurance company reported that in five years the number of forms used was reduced from 3,208 to 1,987 at a procurement saving of $27,000.00 a year.

$160,000 savings per year

In one procedure utilizing 27 forms at the rate of 10,350,000 a year, revisions reduced requirements to seven forms and 4,800,000 units. The number of forms handled was reduced 53 per cent and the number of operations on each form was reduced 47 per cent to yield a saving of $160,000 a year in clerical costs.

Some companies have used photostat negative reproductions to eliminate the time required to type certain reports, especially those involving tabulations that require considerable typing time.

Any incentive plan for office workers should include supervisors. Additional compensation for improved results and labor savings is sure to pay off. Finan-

(*To page* 64)

A net payroll savings of 20 per cent is not unusual

Any hand telephone in the hospital's private branch exchange system . . .

Central dictation—from the nearest 'phone

Hospital extends network dictation by tying in 'phones

by C. O. Vermillion, M.D., and W. W. Simonds
(Dr. Vermillion and Mr. Simonds are, respectively, associate directors of Barnes Hospital Medical Center and Wohl Hospital, St. Louis)

THE PROBLEM of furnishing stenographic coverage has been reduced to some extent by the introduction of a new principle at the Barnes Hospital Medical Center in St. Louis. For several years, network dictating systems have been available by which dictation from many locations can be recorded upon one or more central recorders. This principle has been modified to allow the same central recording of dictation from any telephone of a private branch exchange which has dial equipment of the Bell Telephone Company.

In many locations of a business it is advisable to have a stenographer available for some executives, office managers, department heads, or even for clerical staff, if they have any appreciable volume of dictation of correspondence or inter-office memos. Frequently these personnel or others will have a very small amount of dictation daily. Some businesses have solved this by means of a stenographic pool. In such situations, it is merely one more advance to replace the stenographic pool by a transcription pool of personnel and substitute recording machines for stenographers.

Recording of dictation offers several advantages. One of these is the elimination of stenographers at many different locations. Although it may still be desirable to have a receptionist in the office, she need not have shorthand ability and, perhaps, not even typing ability. Through this elimination, considerable saving in salary can be achieved and invested in better receptionists. One is able to pay almost the salary scale of a stenographer and so get a much better employee who does not have these abilities but is an excellent receptionist. The savings in this aspect can also be utilized to create a central typing pool for the transcription of the dictation placed on the central recorders. In some installations this typing pool will need to be an entirely new function; in other installations the central recorders can be placed where a pool of typists is already available. If several individuals use the central dictation system, the transcription can be done by specialists in such work, thus achieving copy as good as that of the most experienced stenographers.

Still another advantage is the saving of stenographer's time by using dictation equipment. She is not occupied in taking down the entire dictation in shorthand and is thus available for other duties. Similarly, she does not have her time completely wasted during those periods when the dictator is interrupting his dictation for accumulation of information, organization of thoughts, or interruption by telephone calls or individuals coming into the office. This last factor is found to be very appreciable in many locations.

To the individual who is dictating, there are certain advantages to the use of a machine. In answering correspondence, the replies for certain items can be dictated immediately. There is some time-saving by placing the reply upon a recording machine at the time that the item is first read, thus avoiding the re-consideration required when such items are laid aside for later dictation. More relevant in many situations is the factor of a machine being constantly available instead of having lunch hours, coffee breaks or absences for sickness and vacation. The machine is even available during evening hours and week-ends without paying the overtime that would be required for a stenographer when there is need for such work.

The use of dictation machines is objectionable to some individuals, but it has sometimes been found that the individual hand-sets are more acceptable than the common type of dictating machine microphone. This is undoubtedly because the individual hand-sets are very similar to the ordinary telephone with which we are already familiar.

The expense of providing sufficient recorders for each individual needing this service has led to the development of central recorders for several individual dictation stations. In this way a

. . . can be used for the transmission of dictation to a bank of central recording machines

dozen different locations can have hand-sets connected to two or three central recorders. When the volume of dictation is relatively low, an arrangement such as this is perfectly satisfactory.

To carry the principle of familiarity of equipment even further and also to reduce further the investment in equipment, it is now practical to have central recording machines installed to record dictation into the regular telephones of a business office or organization. This has been possible for quite some time but has had rather severe limitations.

Recently there has been released certain specialized equipment which permits the installation of central recording machines so that any hand telephone of a dial type private branch exchange system can be used for the transmission of dictation to the central recording machine just as effectively as the separate hand-sets of dictation machine companies. This service is available from the telephone company by a monthly charge for the dictation trunk. The subscriber purchases the recording machine of his choice and uses it for the termination of the dictation trunk. This central recorder is only a slight modification of the central recorders which are available from several companies for their centralized dictation systems. This system has all of the standard features of regular dictating equipment, plus communication with the attendant at the central recording point on the same circuit. It has several advantages for persons who may be working in remote offices. Barnes Hospital, for example, has a warehouse five or six blocks from the hospital but connected by private telephone line to the hospital switchboard. If desired, inventories, memoranda or purchase requisitions could be dictated from this area. For many years, hospitals and other business organizations have used network dictation systems. At Barnes Hospital, the network dictation system consists of several dictating stations at various locations throughout the center connected to three central recorders. Any one of the central recorders is available to each of the dictation instruments. This system has chiefly been used for those functions where dictation is done in a relatively large volume at one time and from a location which is principally for that purpose. An example at Barnes is the installation of dictation booths for the medical staff.

Second system in 1955

During the early part of 1955, the second type of system, with a central recorder installed through the telephone equipment, was put into use. This telephone dictation trunk at Barnes Hospital was the first such installation by Southwestern Bell Telephone Company and one of the first such in the country, although there had been a few experimental installations for some time. At the present time, one central recorder has been installed and is available for use by various key personnel through their ordinary telephone hand-set. This system has been used chiefly for administrative dictation of correspondence and interoffice memos. The experience has been so satisfactory that additional central recorders connected through the telephone equipment are planned. Both the central recorders of this system and of the individual network system are at the same location, and transcription of the dictation is done by the same personnel.

The comparative advantages of the two types of network dictation systems need to be carefully evaluated. The principal advantage of individual hand-sets is the elimination of traffic on the telephone system. When regular telephones are used for dictation stations, some telephone mechanical equipment is used, and the individual telephone of the person dictating is also busy, thus preventing incoming messages. For this reason, it is sometimes advisable to use the regular telephones for dictation only in locations where more than one station is available. Thus dictation on one line will not completely prevent messages coming in. In an executive's office where two lines are available, he may be dictating on one when a telephone call comes in on the second. Naturally, he will interrupt his dictation to take the telephone call and, if it is a lengthy interruption, will release the dictating trunk, thus releasing at the same time his other telephone line and allowing incoming calls. If the interruption for the telephone call is

(*To page* 42)

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Personnel selection

(*From page* 24)

available on the job market annually. A substantial number of these are handled by approximately 1,000 employment agencies in the city.

Now, the Underwood Samas system is solving the problem, according to Mr. Harper. A comprehensive scientific coding plan allows for the great variety of human experience and job requirements. The two simple machines, the Automatic Punch and the Automatic Selector, can be rented for from $40 to $60 a month or purchased outright for from $2400 to $3600. The small cards, costing only 64 cents a thousand make it economically practical to record everything in automatic sorting form. This new system means speedy job placements. Just the time-saving and reduction in clerical functions alone more than justifies the cost.

The Underwood Corporation recently introduced Underwood Samas systems and equipment for basic statistical and accounting uses, such as, sales analysis, inventory, production control and payroll. Before long, the firm's technicians realized that the same equipment could also be profitably used by employment agencies. Harper Associates pioneered.

Heart of the system as worked out by Harper Associates are charts made up from regular printed job application forms. The basic charts cover accounting, sales, technical, executive, general commercial, market analysis, engineering, advertising, clerical and secretarial positions. All men's and women's jobs at the agency fall into one of these major categories.

The charts are divided into vertically numbered columns. The numbers correspond to the locations of the punched holes in the Underwood Samas card which records the individual's specific qualifications. The first three columns, standard on all charts, cover the applicant's age level, educational background, and expected salary range. Remaining columns are devoted to a breakdown of experience and skills which vary in every industry. In accounting alone there are 32 major types which are further broken down into many minor categories.

Associates at Harper's find that they can jot down many of the codes while interviewing candidates. The rest of the codes are readily picked-up from the regular application form. Then the cards are easily punched, using the automatic ten-key equipment. Personal consultants at the agency say that a card can be punched in a few seconds. The punched cards are then filed by the same general classification as the charts.

The fastest and simplest part of the job is running these cards through the Automatic Selector, set in advance to search for the desired qualifications. The Selector takes up less space than an ordinary typewriter table. It measures 41 inches long by 15 inches wide and 40 inches high.

Mr. Harper adds one more point about his accurate and time-saving automatic system. "The employer, employee and agency all profit from our faster service, thanks to the Selector."

People in the News

(*From page* 9)

Pa. Mr. James, who has been with the company three years, was previously in the methods and planning division of the U. S. Steel Corp. He is a past national director of the Systems and Procedures Association of America.

C. H. LIBBY has been appointed assistant controller of the Crucible Steel Co. of America. Mr. Libby has held accounting posts with General Motors, duPont, the public accounting firm of Lybrand, Ross Bros. and Montgomery, Mathieson Chemical Corp., and American Home Foods, Inc.

WILLIAM L. FOLKERTS has been named director of The Gray Mfg. Co.'s newly created Product Research Division, which will concentrate on new products and improvements to existing products. Mr. Folkerts has been with the company since 1940.

LEM W. BOWEN, who has been with the Burroughs Corp. since 1937, has advanced to the post of assistant treasurer of that company.

MILTON E. MENGEL has been named a vice president of the Burroughs Corp. He will be in charge of corporation - wide product planning. Mr. Mengel has been with Burroughs since 1927, when he joined in a sales capacity. Since June, 1953, he has been director of product planning.

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A Monthly Feature

Tools of the Office

Dictating and Transcribing Equipment

by Robert Beeman

Offices are becoming more and more aware of the possibilities of network dictation machine systems for saving time and money in the handling of correspondence. While individual units are a great help to executives who do a great deal of letter writing, network systems are especially valuable to those who dictate less frequently. This installation, in the offices of the American Casualty Co., Reading, Pa., makes use of Dictaphone's Telecord System.

In the Credit Exchange, Inc. offices in New York, a complete credit-checking system built around a forty-foot message conveyor and an installation of "Crediphonic" recording machines, manufactured by Magnetic Recording Industries, has simplified the handling of requests for credit information. *(Photograph by courtesy of Art Steel Co., Inc., which manufactured the desks, and Manhattan Stationery Co., which made the furniture installation.)*

Typical of the individual type of dictation machine is the new Audograph V, which records on plastic disks. It is a product of The Gray Mfg. Co.

THE MODERN dictating machine, properly used, is one of the most efficient and convenient of office aids. It can greatly simplify and speed many types of office work. Yet it is also one of the most controversial items in the office. Few subjects, it seems, arouse such a variety of strong and conflicting opinions as does the question of machine dictation versus stenographic dictation.

While the dictating machine, in one form or another, has long been familiar, it has never received the universal acceptance that has been accorded the typewriter, the adding machine, or the spirit duplicator. Although it is clearly capable of performing a job that needs to be done, it is resisted in many quarters. Why should this be?

Office Management has asked a number of its readers to express their views on this subject. On the basis of their answers it appears that the pros and cons of the matter have little to do with the actual merits of the dictating machine itself. Certainly there seems to be general agreement that the equipment does offer definite and substantial means of improving efficiency and economy.

Most of the disagreement seems to be concerned with less tangible things, such as the matter of understanding between those who dictate letters and those who type them. In the judgment of some, these less tangible things are of greater importance than the specific benefits of using a machine. In such non-measurable matters, personal preferences are largely decisive, and these vary enormously.

However, it also seems clear that many of those who take sides against machine dictation have been the vic-

Important ANSWERS to QUESTIONS About Rex Recorder

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Q *Can overhead be cut with the REX RECORDER?*

A. **You can save from $300 to $1300, during the use of the machine.**

Q *How does this saving happen?*

A. **REX RECORDER doesn't use any needle. The disc is never destroyed. Each disc is good for 10,000 uses. This gives you a definite hard cash savings.**

You mean I do not have to have my recording discs re-surfaced?

Q

A. **That's correct. Simply slide the Magic Eraser over the disc and you are ready to dictate with a completely new surface. It's as easy as using a pencil eraser.**

Q *That sounds wonderful. I'd like to know how REX can be sold for so much less than other recorders?*

A. **It is simplicity of construction. REX RECORDER hasn't any cutting needle or turntable or feed screw. There isn't any belt to multiply power from motor to gear drive. REX costs only $265 per unit.**

Q *How does the tone value of the REX stand-up after 10,000 recordings?*

A. **As clear as the first recording. Because the REX does not use a cutting Jewel the discs never decrease in tone and quality. On other machines the Recording Head is expensive to replace. This is another hard cash savings with the REX RECORDER.**

Q *This all sounds very good—but do you have offices and service throughout the country?*

A. **Offices are in hundreds of important cities throughout the United States . . . and throughout the world. The true-beauty of the REX RECORDER is that it rarely needs any servicing.**

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YOU ARE INVITED TO TRY THIS YEARS-AHEAD COMPTOMETER IN A FREE OFFICE TRIAL OR DEMONSTRATION

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Comptometer's Erase-O-Matic belts, made from miracle Mylar*, can be re-used thousands of times—a tremendous economy feature. They are renewed magnetically, in just three seconds, without removing from machine.

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The first dictation machine with fragile wax cylinders that had to be re-surfaced.

1939
The first record type dictation. Disadvantage: costly, breakable, only one use.

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First flexible plastic belt. A definite advance, but still costly, one use.

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Gentlemen: Without any cost or obligation please arrange:

- ☐ FREE DEMONSTRATION
- ☐ FREE 10 DAY TRIAL
- ☐ Send complete information

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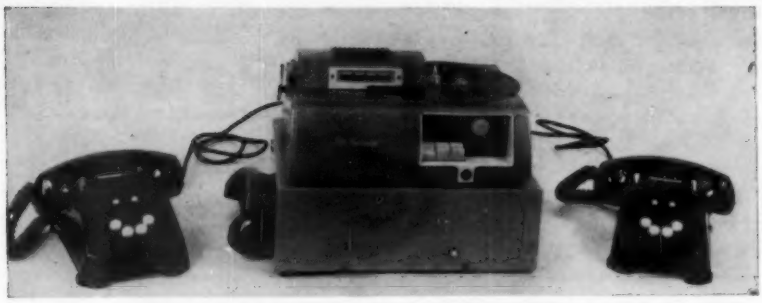


Among the newest products in the dictating machine field are the magnetic disk network system being introduced by the American Dictating Machine Co. this fall (above), and the Dictaphone Corp.'s new President unit with "Remote Power Control," giving the executive complete control of the dictating unit on his secretary's desk (below).

tims, often unknowingly, of improper use of dictating equipment.

Picture, for example, the unhappy typist who hears, as she finishes a letter, the added instruction, "Make an extra copy of this for Mr. Jones." Her work has gone to waste; now she must do it all over again.

There is really no excuse for this situation. Either the dictator or the typist has been at fault. Yet the tendency is to place the blame on the machine.

What actually has happened here? One of two things, evidently: either the dictator forgot to signal that there was a correction or addition to his original instructions, or the typist failed to heed his signal and proceeded to type the letter without checking to see what correction had been made.

All modern dictating equipment is provided with a means of indicating corrections of this type. On many machines it is merely necessary to press a correction button and add the necessary instructions to the dictation. With other machines, a note may be made on a log card or pad. These devices are simple to use, yet they are often ignored.

If the dictator does his job properly it should not be necessary for a typist to listen to an entire letter before transcribing, unless a correction has been signaled. She should be able to rely on the dictator to mark those letters that need corrections. Otherwise she can waste an enormous amount of time listening to all letters in advance. But if a correction is properly signaled and the typist fails to look into it before beginning to transcribe, she has only herself to blame if the letter has to be done twice.

Other factors that have prejudiced some against the machine include mumbled dictation, failure on the part of the dictator to be sure that technical terms, numbers, and unfamiliar matter are clearly spelled out or explained as required. And sometimes the dictator fails to preface his instructions to the typist with the word "Operator"; the typist, not realizing that what she is hearing was meant only for herself, types these instructions as part of the letter. The resulting waste is obvious.

In short, the dictator must learn to put himself in the place of the typist; he should not assume that she is a mind reader and will be able to guess from his mumbled or inadequate instructions what he really meant to say. He must remember that he knows—or should know—more about his subject than she does.

Quite preposterous things sometimes occur. One thinks, for example, of a certain gentleman who habitually became so engrossed in his dictation that he completely ignored the warning signals indicating that it was time to change the disk on his machine. Regularly he talked well beyond the capacity of the machine to record, and then he blamed the typist—or the machine—for her failure to get the whole letter!

However, there have been a number of objections to the machine that were quite legitimate. Some older models did not record with acceptable fidelity. If the typist must play a recording a number of times in order to guess correctly what was said, time is certainly going to waste. But in most modern equipment, fidelity is vastly improved. When recorded words are garbled, it is generally safe to question the speech habits of the dictator rather than the capacity of the machine.

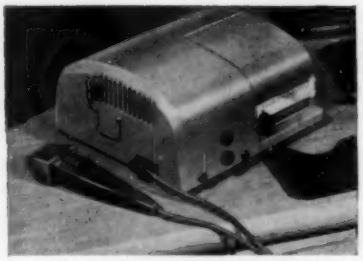
In general, however, the technical problems that plagued early dictating equipment have been overcome to a point where they are inconsequential. The modern dictating machine will do all that may legitimately be asked of it.

One point that is sometimes made, however, is that corrections are sometimes more easily made when the secretary is on hand to inquire about matters that are not clear.

It has been suggested that most of the controversy regarding dictating equipment is based on intangible values. On the basis of comments from readers of this magazine, it appears that there are two main points. The great advantage claimed for the machine is that it frees both the dictator and the typist from a rigid schedule, permitting each to plan the day's work without having to depend on the convenience of the other. This point will be examined below.

On the other hand, the great virtue of using a stenographer was considered to be that a good secretary could provide invaluable assistance to her boss during the course of dictation through her familiarity with files, clients, company policy, etc., and through her ability to anticipate the dictator's needs through personal experience with his individual ways of conducting business.

There seems to be little point in arguing that the machine can save a good deal of time. This was agreed to on both sides. The executive can dictate whenever the need occurs—as he reads his morning mail, during



Representative of developments in the field of magnetic dictation are these three units: At top, a Peirce model, which records on a magnetic belt. Center, an Ampro tape recorder, employing magnetic tape, which has been adapted for office use. At bottom, a new DeJur model, also using magnetic tape, designed specifically for use in the office.

lunch hours, while his secretary is busy with other matters, after the close of business, on weekends and holidays, and—since much modern equipment is portable—at home, in his car, on trains and planes—in short, at all kinds of odd hours and in remote places where it would be inconvenient or costly to obtain stenographic help.

It is also quite obvious that when a letter is dictated to a stenographer, she actually writes it twice—once in shorthand, once on the typewriter. When machine dictation is used, not only is the first writing eliminated, but the stenographer is spared time-wasting interruptions during dictation—such as phone calls, visits by members of the staff, time out for reflection and digesting of facts, demands for new files, etc.

Further, in offices where stenographic help is available on a "pool" basis, the machine can be invaluable for evening out peak loads. Instead of having to wait for a stenographer who is already busy taking dictation, the executive can use the machine to absorb the overload. Conversely, if one man has a larger than usual number of letters to get out, the records can be distributed among several typists for quick transcription.

In addition, a recorded letter can be transcribed by any typist, whereas correspondence recorded in a shorthand book is often not decipherable except by the person who wrote it down. A letter in a shorthand book is often "frozen" in the book until the stenographer can personally attend to it, whereas a letter on a disk, belt, or tape can be transcribed by any typist in the absence or unavailability of the person who would normally type it.

Against these clear-cut advantages, one primary disadvantage was cited by readers of this magazine: the machine cannot give personal assistance to the dictator. This was agreed to as significant both by companies using machines and those that did not. The reference is primarily to assistance at the time of dictation, but if a transcription pool is involved, the loss is more extensive.

It is in this area, of course, that personal preferences are most free to exert themselves. Some consider this personal help factor to be of overriding importance. Others hate to give up that assistance but feel that, soberly examined, it costs too much. Still others are so relieved at not having to depend on the convenience of the stenographer that they feel the loss of personal aid is inconsequential in view of the advantages of the machine.

Another element of this question is the purely psychological fact that the "personal touch" generally makes for pleasanter working conditions. This was considered important by a considerable number of companies. How important, again, depends on the individual.

The general tendency seems to be to favor stenographic help for top executives in almost all cases, the assumption evidently being that the personal assistance of the trained secretary is of vital importance in helping the executive to make good use of his time.

In argument for the stenographer, it should be added that a number of executives feel it is safer to entrust confidential matters to a reliable secretary than to a disk or belt which could get into the wrong hands.

Machine dictation, on the other hand, comes into greater favor below the top executive level. It is interesting, though, that companies having dictating equipment generally do not rely on it exclusively. In many companies, stenographers are required to transcribe from machines as well as to take shorthand, depending on the situation. Differentiation varies, too, as to the types of work to be handled by machine and the types to be entrusted to stenographers. Some companies said that work of a routine or general nature was best suited to machine dictation, but that work involving technical terms, figures, tabulations, etc., was better performed by stenographers. Others use machines chiefly for those men who dictate only infrequently, but allow others to use stenographic help. One company, with various offices, indicated it prefers stenographers in the small offices, machines in the large ones.

It should not be forgotten, either, that the whole controversy is very much affected by certain theoretically unrelated matters. For example, the fact of having a personal secretary is widely regarded as a mark of prestige. It is understandable, therefore, that an executive would be inclined to resist any attempt to deprive him of any of the personal service he feels he deserves. There is no reason why a personal secretary cannot use a dictating machine—they often do—but the idea of machine dictation often suggests the transcription pool and its anonymous impersonal services.

And on the other side, the stenographer who has spent time and effort acquiring skill in shorthand, may resent the introduction of equipment which tends to reduce the need for her special talents. Put in other terms, she may well dislike facing competition from less skilled, lower-salaried individuals who can do her job without having to know shorthand.

But these points of view are by no means universal. An executive con-

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5 **Visible recording.** See exactly where you are on the record at a glance. Easy to find your place for playback.

4 **Unbreakable plastic** record is permanent, non-erasable.

3 **Mail Dictabelt records** like an ordinary letter . . . they're feather-light, flexible, and post-card size.

2 **File Dictabelts** for permanent voice record, or for future transcription.

1 **Save money on Dictabelts.** Just 4¢ for average day's dictation. You always record on a new surface. No "multiple handling" of records.

The Dictabelt Record . . . Most efficient and versatile dictation record in the world . . . exclusive with Dictaphone equipment.

Dictaphone Corporation manufactures, sells and services a complete line of electronic machines for dictation and recording, including:

The basic Dictaphone TIME-MASTER dictating machine • The TIME-MASTER with Power-Control • The President model with Remote Power-Control • The TIME-MASTER with telephone recording • The TIME-MASTER combination model for dictating and transcribing • The Dictaphone TELECORD network dictation system (can be adapted for internal dial systems such as PBX).

For more information or a free demonstration, call any Dictaphone office—or write Dictaphone Corporation, 420 Lexington Avenue, New York 17, N. Y. In Canada the Dictaphone Corporation, Ltd., Toronto, Ontario.

DICTAPHONE
CORPORATION

DICTAPHONE, TIME-MASTER, DICTABELT AND TELECORD ARE REGISTERED TRADE-MARKS OF DICTAPHONE CORPORATION

FOR MORE INFORMATION USE READERS' INQUIRY COUPON ON PAGE 78.

nected with one of this magazine's recent Office of the Year Award winners, for example, seemed to be startled by a question as to whether or not his company used machines. But of course! His company had exerted itself to be efficient in all respects. What alternative did it have to using machines?

And, on the stenographic side, many a secretary has learned to enjoy the greater freedom offered her by machine dictation.

As suggested earlier in this introduction, the debate seems to concern itself not so much with the facts of machine capacity as with the intangibles of its application. People are influenced not only by success with the machine but by failures due to improper machine use, and by the consequences of using machines in situations in which they are not appropriate.

In particular, there is a psychological factor. Perhaps one explanation may be this: The typewriter, the adding machine, the duplicator sell themselves to their users because they help them to do their work more efficiently on a strictly individual basis. The dictating machine, while it can and does achieve real efficiency, interposes itself in the line of personal human contact between people.

It is human to be sensitive about these things. Possibly the real reason behind many of the arguments advanced against machine dictation is a feeling that it imposes a limitation on a much valued commodity—freedom of personal interchange. Many of the fears are exaggerated, no doubt, but after all, the psychological factor is real, and must be dealt with. A valuable piece of equipment is offered but can the office worker learn to use it as it was meant to be used?

The benefits of machine dictation are clear enough. The question is whether or not the intangible factors in each case override those benefits. Perhaps the best summary of the arguments is the comment of one reader, who observed that the machine cannot take the place of an A-1 stenographer, but that very few stenographers fall in that category.

Modern dictating equipment is a product of long experience—in the field, and through continued research. The technical problems have been adequately solved, and the suitability of various makes of machines really depends on how they meet, in practice, the basic requirements of a good machine.

It may be considered that these requirements, offered here as an informal sort of check list, are: high fidelity of recorded sound; simplicity and reliability of operation; instant control of stopping, starting, and backspacing; durability of the mechanism so that it will last through years of constant starting and stopping; ease of making corrections and providing instructions to the operator, including indications as to the length of letters; economy of operation; compactness of equipment, since it is often moved from one place to another; and ease of changing the disk, belt, or other recording medium.

It will be seen at once why the standard tape recorder is normally not considered to be a piece of dictating equipment. Such equipment is designed for more or less continuous recording and playing back. While it is quite satisfactory for recording conferences, speeches, and the like, it is likely to be awkward from the standpoint of the typist, because it is not specifically designed for rapid starting, stopping, and backspacing.

Backspacing is particularly important in transcription, since dictation often proceeds more rapidly than it can be transcribed and the typist must constantly stop, start, and backspace

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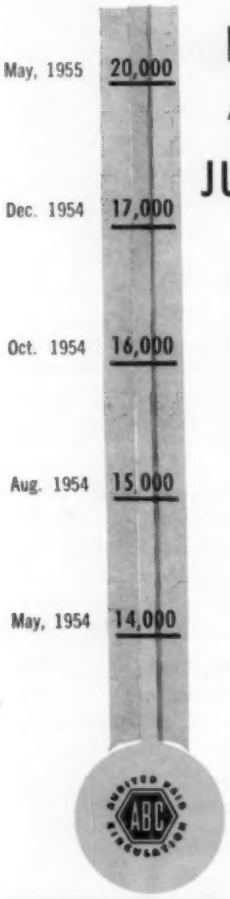

office management

CIRCULATION CONTINUES TO RISE!

OFFICE MANAGEMENT now reaches and influences more than 20,000* management executives concerned with office administration in AMERICA'S LARGEST OFFICES. The phenomenal circulation growth and high renewal rate are an indication of the vitality of OFFICE MANAGEMENT'S editorial service. Management executives pay to receive OFFICE MANAGEMENT, because they need it and want it and they want to be SURE to receive it regularly. They are the men who initiate and "okay" the billions of dollars of expenditures for all office equipment, services and supplies.

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to be sure of the continuity of the text.

A particularly valuable device, found on a number of dictating machines designed for office use, but rarely, if ever, on a tape recorder, is a speed control. While a change in speed does to some extent alter the sounds recorded, the ability to slow down or speed up the record to fit the typist's transcription speed can save a great deal of starting and stopping. This is both a convenience and a saving in equipment wear.

However, there are some tape recorders which have been adapted to office use. Where suitable provisions have been made for instant start/stop and reverse or backspacing, a tape recorder can be used successfully for dictation and transcription.

For many years, dictating equipment was of the cylinder type. The durability and suitability of this type of equipment is indicated by the fact that much of it is still in active use in a day when modern developments have far outdistanced it.

The cylinder was largely replaced by the plastic belt and the plastic disk, depending on the machine. These, of course, are much easier to handle—are, in fact, made so they can be placed in envelopes and mailed, should that be desirable—and are more economical to use. Some types can be resurfaced after use and can be used several more times; others are designed for one-time permanent recording. In both cases, however, the cost per letter is small, varying from a fraction of a cent to a few pennies.

A newer development over the last few years has been the application of magnetic recording principles to the dictating machine. Several types of magnetic media are offered, including wire, disks, tapes, belts, and even paper. The particular virtue of magnetic recording is that it permits the medium to be re-used almost indefinitely by the simple process of re-recording directly over previous material. This is of advantage in correcting errors in the dictation, for the dictator need only backspace to the point at which he wishes to make a correction and dictate new and correct material in place of the previous matter. Manufacturers of this type of equipment emphasize the "error-free" dictation this principle allows.

A secondary benefit is that the typist can judge the length of a letter without having to allow for deleted or corrected material and can make an easy estimate of the amount of space it will require on the typed page. On the other hand, there are those who argue that magnetic media are not as convenient to handle as plastic disks or belts.

Although plastic disk and plastic belt equipment continues to be extremely popular, the magnetic types are growing in importance, with an additional boost probably supplied by the popularity of that related type of equipment, the home tape recorder.

Dictating equipment can be classified also with respect to its intended use. Certain models, for example, are designed for dictation only, while others are for transcription only. This does not mean that a dictating model cannot be played back, but it does mean that it is not designed for use with certain transcription conveniences, such as foot pedal (or typewriter bar) control of starting, stopping, and backspacing, or with earpieces for the use of the typist. The transcription unit, on the other hand, has these features, some of them optional, of course, but does not have a microphone for dictating.

Equipment of this sort is particularly useful where one transcriber is serving more than one dictator, since it permits each person to have the lowest priced unit appropriate to his needs.

However, where desired, dictation and transcription facilities may be included in a single combination unit. Such a model is naturally much less expensive than separate dictating and transcribing units, but it is less flexible. Obviously, if it is being used for transcription, it cannot be used at the same time for dictation. Clearly, it is better suited to situations in which the dictator and the typist do not conflict in schedule, as, for example, when the dictator does his letter writing after hours.

A third type of system is the network arrangement, in which the dictator records his letters on a remote unit in a transcription pool. The dictating station generally is of the telephone type, reducing the bulk of equipment required on the executive's desk. He nevertheless has full control, including the power to make corrections, and to indicate the length of letters.

Network systems may be equipped with such features as devices to switch an incoming call automatically from a busy machine to one not in use, telephone communication between dictator and typist (for special instructions if necessary), automatic locking out of incoming calls when a machine is busy, together with a corresponding signal to the dictator, etc.

The network system is probably best used when individual men do not do a great deal of dictating—in other words, in situations where the pool type of transcription service is superior to transcription by personal secretaries. It is generally less expensive per person than individual units. However, a man who dictates a considerable amount of correspondence, is usually better served by an individual unit. Various technical refinements are constantly being added to current equipment. Typical is a remote microphone control system by which an executive can dictate to a unit on his secretary's desk, while retaining full control of corrections, end-of-letter indications, etc.

There seems also to be increasing emphasis on the portability of equipment, resulting in constantly diminishing machine size.

Other features available on some equipment include automatic volume control and a device to start and stop the dictating machine automatically at the sound of the voice. Also offered are devices to record complete telephone conversations, automatically providing the "beep" signal required by law when making such records.

It is interesting also to reflect on how dictating equipment has been found useful for a variety of purposes other than the preparation of correspondence.

When Credit Exchange, Inc., opened new offices in New York, for example, it demonstrated a system by which credit inquiries from subscribers are switched to a recording unit called Credi-phonic, developed for the purpose by Magnetic Recording Industries. When all inquiries have been recorded, or when the record is filled, it is transcribed and the requests are sent, via a message conveyor, to the files for checking. Information is returned to the subscriber by means of a return call. It is estimated that inquiries can

Next Month:

Intercommunication Equipment

be checked at a rate of one every twelve seconds by this means.

Another application is the use of dictating equipment to record inventory information. Instead of writing down each item as it is checked, it is merely given orally to a portable machine—which can be mounted readily on a stand riding on casters. No writing need be done until the information is transcribed in the office, a more convenient place for the purpose than a storeroom.

Other applications include the taking of orders and the recording of conferences. A fairly recent technique which seems to have considerable possibilities is the use of a voice mask in dictating conference proceedings to a machine. The operator repeats to the machine everything he hears, but the mask prevents his voice from disturbing his neighbors. The operator, of course, must train himself to do this efficiently, but the stenographic skill it replaces is an expensive item.

In addition, the equipment can often be used for dictation without any intent to transcribe. An executive, for example, can leave instructions with his secretary by this means, and recordings of salesmen's training sessions can be played back for guidance in developing sales techniques.

The list which follows covers the principal manufacturers of dictating machines with a brief description of the type of equipment they offer.

Manufacturers' List

Ampro Corp., 2835 *N. Western Ave., Chicago.* Ampro, manufacturer of tape recorders and other equipment, offers three models adapted for office use. All use magnetic tape and serve for both dictation and transcription. Maximum recording time on the tape is 3 hrs. Two tape speeds are available, 3¾ and 7½ in. per sec., for maximum recording time and maximum fidelity, respectively. Units are available with foot pedal controls to facilitate transcription, editing, etc. Other features include earphone monitoring, three-digit selection locator, volume and tone controls. Price range, $159.95 to $279.50.

Amplifier Corp. of America, 398 *Broadway, N. Y.* This company, known for its line of magnetic tape recorders, is developing a battery-operated dictating machine, details of which are expected to be announced in a few months. A special item now offered, while not strictly a dictating machine, is of interest for certain office uses. This is the Secret Recorder, a lightweight (11¾ lbs.) tape recorder concealed in a leather briefcase of average size. It is designed to record for 1½ hours at a speed of 1⅞ in. per sec., and to pick up ordinary speech in quiet areas at a distance of 100 ft. It is considered useful for salesmen's reports, field reports, verbal contracts, market research, and other purposes. Prices, $289 and $310.

American Dictating Machine Co., Inc., 65 *Madison Ave., New York.* The line of Rex Recorders includes dictating, transcribing, combination, and network units, all of which employ magnetic disks, as the recording medium. Disks have a maximum recording time of ten minutes, with re-usability of more than 10,000 times each. Features of transcribing units, include loudspeaker, headset, foot pedal attachments, and single word backspacing. Corrections are made by dictating over incorrect material. Notes and letter length may be shown on a log pad. New in the line is the network system, consisting of a central recording unit and remote dictating stations, each of which has its own set of controls. Price range: for individual units, $230 to $300; for network units, $560 for master, $60 for each station.

Baltimore Dictating Machine Co., 817 *E. 33rd St., Baltimore.*

DeJur-Amsco Corp., 45-01 *Northern Blvd., Long Island City, N. Y.* DeJur announced its first dictating machine in June. This is the Stenorette, a magnetic tape instrument with push-button controls. The company calls it "the first magnetic tape machine designed specifically for recording and transcribing." Maximum recording time on tape, 30 minutes, with indefinite reuse. Combination microphone-speaker has start-stop button. "Automatic Review" provides quick check of last few words dictated. Available accessories include foot pedal controls, earphones, and telephone attachments. Log pad is used to indicate position of dictation on tape and to make notes. Corrections can be made on pad or by redictating over faulty material. Unit weighs eleven pounds. Price $169.50.

Dictaphone Corp., 420 *Lexington Ave., New York.* Dictaphone Time-Master equipment makes use of plastic belts called Dictabelts. Machines are offered in a number of models: for dictation only, for transcription only, and in combination designs for both dictation and transcription. Other versions of these models are available with "Power Control" and "Remote Power Control" features. Power Control units have all basic operating controls on the hand microphone. The Remote Power Control feature is similar except that it operates from a microphone on the executive's desk to a dictating machine on the secretary's desk. Another model can record telephone conversations. Dictabelt records have either 15 or 30 minutes of recording time, and are used once each to provide a permanent record. Other features include Automatic Voice Pilot, giving visual indication of recording; Two-Speaker Playback, offering either confidential listening or loudspeaker playback; optional hand or foot control of starting and stopping on both dictating and transcribing machines, Magic Ear, and Twin Ear. In addition, the company offers the Telecord network system, using a Time-Master dictating machine as the central recording unit and telephone-type remote stations for dictation. Executive has full control of dictation.

Thomas A. Edison, Inc., West Orange, N. J. Edison offers a line of equipment using plastic belts. Models are obtainable for dictation and transcription, and are offered in individual station and network types. The plastic belts can be re-used several times. Each can take 30 minutes of dictation at a time. Transcribing units have both loudspeakers and headsets. Start-stop controls are on microphone. Transcription controls may be of either foot pedal or typewriter type. Notes to the typist can be made on the Edison Keymatic Index Slip. A feature of units is compactness and portability. The V.P. Edison Voicewriter is flat in shape, resembling a closed book. Network systems use Tele-Voicewriter recording units and Televoice dictating stations of the telephone type. The remote stations have full control of dictation.

Felt & Tarrant Mfg. Co., 1735 *N. Paulina St., Chicago.* Felt & Tarrant, widely known for its Comptometer

calculating equipment, has renamed its Dupli-Voice line of dictating equipment. Units of the line are now known as Comptometer Dictation-Transcription Machines. The machines record on magnetic belts, which can be re-used more than 10,000 times each and are guaranteed for life. On the dictating model, all controls except the transcribe and dictate switch are on the microphone. The transcribing unit has a foot pedal for start, stop, and reverse control. Both loudspeaker and headset playback are offered. Notes to the secretary can be made on a log pad measuring 8½ by 4 in. Corrections may be made by re-dictating over erroneous material. Prices: for dictating units, from $333.90 to $365.40; for transcribing units, from $339.65 to $371.15; for combination units, $360.65 to $392.15.

The Gray Mfg. Co., 521 *Fifth Ave., New York*. This company offers Audograph V equipment of the individual unit type, and PbonAudograph units for network systems. Plastic disks are used as the recording medium for all equipment. These can be resurfaced and re-used a number of times. Maximum recording time on a disk is one hour. Audographs include dictating, transcribing, and combination models. Transcribing units have headsets; dictating stations have push-button controls on microphone, a new feature. Audograph V models are priced from $340. Equipment of the PhonAudograph III line is priced from $650. The basic unit is the Recorder-Transcriber, designed to be located in the secretary's office. It records dictation received from the executive's telephone-type dictating station and serves also for transcription. A number of dictating stations can be connected to one or more central units; each station has complete privacy and control during dictation, other stations being "locked out." In a large pool, Recorder-Transcribers are monitored by one operator at a switchboard. Also offered is equipment of the PhonAudograph I line, a network system, at prices from $1,250.

International Electronics Co., 808 *N. Broad St., Philadelphia.*

Magnetic Corp. of America, 756 *Milwaukee, Chicago.*

Magnetic Recording Industries, 11 *E. 16th St., New York*. Equipment made by this company records on magnetic disks, which are designed to be re-used indefinitely. Maximum recording time for each disk, 20 minutes, or, with "Multiple Loading," 60 minutes. Four models are offered: a dictating unit, a transcribing unit, a combination unit, and a special Ordertaker model, designed for taking orders by telephone. The Ordertaker was used in the recent installation at Credit Exchange, Inc., in New York, referred to in the article introducing this section. Headset is standard on the transcribing unit, with loudspeaker optional. Controls are located on microphone and foot pedal as appropriate. A special feature is the use of a special pencil to make length-of-letter indications and other instructions directly on the disk, if desired. Price range, $155 (for the Ordertaker) to $255.

Miles Reproducer Co., 812 *Broadway, N. Y.* Walkie-Recordall equipment, made by this company, records on a plastic belt which in the largest sizes can record four hours of dictation on one side and can be reversed to take four hours more on the other side. The belt provides a permanent record, being used once. Models are available for transcription only, or for both dictation and transcription. The equipment is battery-powered and is designed to be portable. Models have microphones and built-in loudspeakers. Foot pedals may be ordered where required. Special features, some of them optional, include automatic volume control, automatic equalization (adjusting to low or loud tones of voice), elimination of background noises, voice-operated start-stop control, telephone recording, and remote control. Briefcases, designed to hold the equipment, are also available. Prices from $350.

Paramount Dictating Machine Corp., 332 *Broadway, New York.*

Peirce Dictation Systems, 5900 *N. Northwest Highway, Chicago.* The Peirce line includes a number of models which record on magnetic belts, plus a special type of equipment, designed for airborne use, which records on wire. The standard office line includes models for dictation only, for transcription only, and combination models. Maximum recording time on belts is fifteen minutes (one hour for the wire equipment), and the belts can be used over and over again indefinitely. Transcribing units have both loudspeaker and headset. Dictating controls are on microphone, transcribing controls on either foot pedal or typewriter bar. Flash Back, for review of last few words (in dictating models), is available on both individual and network stations. Network system uses equipment similar to individual units; telephone-type dictating stations included. Price range, $340 to $379 for individual units; prices for network systems vary with installation.

Pentron Industries, Inc., 777 *S. Tripp, Chicago.* Line of Dictorel equipment, using magnetic paper as the recording medium. No information on current models available at press time.

Scribe Corp., 5022 *W. Madison St., Chicago.* The Scribe line includes ten models, of both the individual station and network types. These record on magnetic tape, which is supplied in magazines for easy loading. Total magazine capacity, either 30 minutes or one hour. Tape can be re-used indefinitely (a lifetime guarantee is supplied). Models include dictating, transcribing, and combination types. Dictating controls are on microphone. Provisions made for notes and instructions. Prices from $275.

The SoundScriber Corp., 146 *Munson St., New Haven, Conn.* SoundScriber equipment records on plastic disks which can be resurfaced and used a number of times. The recording capacity of each side is fifteen minutes. The three basic Tycoon models are: one for dictation, one for transcription, and one combination instrument. Transcribing unit has headset. Controls are on cabinet, microphone, or optional foot pedal, as applicable. Corrections, end-of-letter and special instructions are made directly on the disks, without use of paper slips. Transcriber has variable speed system (from 15 to 18 r.p.m.) with quick setting of standard 33 1/3 r.p.m. Adjustable Quick Review is feature of dictating and combination models. Price range, from $315 to $400.

Webster-Chicago Corp., 5610 *W. Bloomingdale Ave., Chicago.* The Webcor line consists of one basic model, a combination dictating and transcribing instrument, using wire as the recording medium. The wire can be re-used indefinitely; its maximum recording time is one hour. Loudspeaker and headset available for transcription, as is foot pedal control. Other controls on cabinet and microphone. Notes and special instructions can be made on a log pad. Price, $140.

Dictation—

(*From page* 29)

only a brief one, he may hold the dictating trunk while he handles the telephone message, but prompt disposal of it will again release an incoming line to his office so that calls are not lost.

The advantage of the telephone company's centralized dictation trunks lies in the elimination of individual hand-sets. These are replaced by the telephone which is already there. This elimination represents a saving of from $75.00 to $100.00 at each location, and the service is available to all telephone stations. As was pointed out previously, it is frequently advisable to limit such usage to locations where more than one telephone line is available to the office. If, however, there are many locations from which dictation will originate, the saving on individual hand-sets will be sufficient so that telephone dictation can be extended to still further offices by assigning another station to that office. This not only gives the advantages of centralized dictation but also increases the efficiency of internal communication by telephone.

The number of central recorders that will be needed for either of the two types of systems can be predicted fairly accurately. It is merely necessary to determine how many individuals will use this service. An estimate is then made of the average amount of daily dictation. Naturally, one must anticipate that there will be overlapping of this time, so four different individuals who dictate merely one hour per day cannot achieve optimum efficiency by the use of only one central recorder. The collision factor will be encountered unless there is a definite time schedule for use of the dictating system by different individuals. With an increase in size of a system, the collision factor becomes less evident. Four dictation stations tied to one recorder will be less efficient than twelve stations tied to three central recorders.

Increase in size makes telephone dictation systems, rather than separate hand-set stations, of even greater application. Individual hand-sets of some systems do have switching facilities whereby more than one recorder is available to each hand-set. This limitation is usually to three or six central recorders without an additional installation of central switching equipment with someone available to change the connection of hand-sets with central recorders.

With telephone dictation trunks, up to ten central recorders can be installed in a bank so that any telephone instrument is automatically connected to any one of the recorders that is not in use. Special application will make further banking of more central recorders practically limitless.

Paperwork control—

(*From page* 20)

session of each series, which was limited to ten trainees, the records officers proceeded to organize the program in their departments. At each succeeding session, problems and techniques were developed and discussed. Upon completion of training, records officers were inducted into a City-wide Coordinating Committee which meets bi-monthly to review progress, exchange experiences, and to foster an *esprit de corps* which is an important factor in effective administration. Subcommittees were designated to study special areas and to make recommendations to the Coordinating Committee. One such subcommittee prepared a schedule of recommended retention periods for records common to all agencies, which serves as a guide in the preparation of departmental retention schedules.

The basic steps in the City's records management program are: preliminary inventory and appraisal, preparation of retention schedules, inventory to catalog records in accordance with retention schedules to provide a plan for the transfer of inactive records to the Records Center and requests for authorization to destroy obsolete and useless records. Other steps: disposition of waste paper, determination of equipment requirements, review of actions by the Central Records Management Section of the Division of Analysis, and relinquishment of surplus filing equipment to the Central Equipment Pool.

For the purposes of retention and disposition, four classifications of records were established: (1) active, (2) inactive, (3) historical, (4) obsolete and useless.

At the Records Center reference requests are tabulated annually to provide records officers with data showing the frequency of reference to inactive records. This information serves as a basis for continuing evaluation of retention schedules.

To insure effective utilization of filing equipment and space and to minimize procurement of additional equipment, equipment control procedures have been established. All departmental requisitions must be cleared with the cognizant records officers and, if approved by them, must be accompanied by a memorandum of justification. Such requisitions are reviewed by the Central Records Management Section. If they are approved here, a check is made with the Central Equipment Pool to ascertain the availability of surplus equipment. Approval for purchase is granted only if the requisition can be justified and no equipment is available from surplus.

At the present time there are ninety-one City and County agencies and departments participating in the records management program. Liaison has been established with the Division of the Budget and the Education Department of the State of New York and plans are being formulated for close coordination of the City and State programs. Liaison has also been effected with the New York Interagency Records Administration Conference of the Federal government and with the records administrators of the City of Philadelphia and the states of Connecticut, New Jersey and Pennsylvania. Cooperation with private industry and the management societies has also proved mutually beneficial.

New York City's Forms Control Program has followed the same pattern of development and administration as the Records Management Program. The forms program is jointly directed by the Office of the City Administrator, the Bureau of the Budget, the Office of the Comptroller, and the Department of Purchase. Administration is centralized in the Division of Analysis of the Office of the City Administrator.

After a pilot study, by an outside consultant, in a typical City department, which revealed a significant potential, the program was instituted late in 1951. Forms representatives designated by department heads received intensive training, during which they set up the program in their respective departments, and after which they became members of the City-wide Coordinating Committee for the Forms Control Program.

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(*To page* 53)

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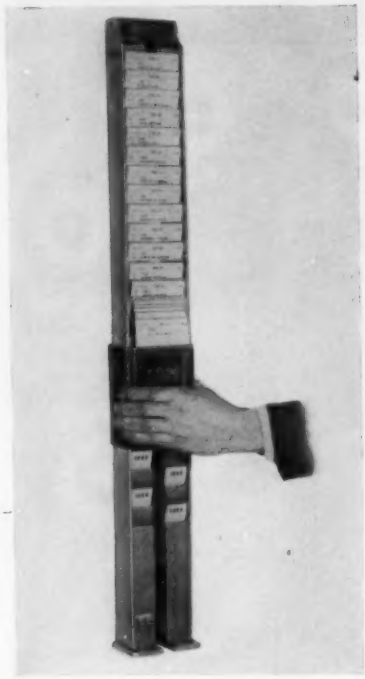
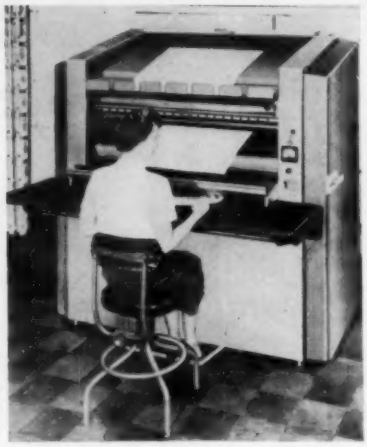


▲ **Electric coin changer**
Coinometer Corp., 1223 S. Wabash Ave., Chicago, has introduced its "400" series of all-electric coin changers, in which the keyboard unit and coin ejector unit are separate, permitting "remote control" installation. **(A-1)**

◀ **Automatic card rack**
This is a new product of International Business Machines Corp., 590 Madison Ave., New York, for collecting, automatically and in sequence, all time cards in the rack by sliding the card collector upward in a simple hand operation. **(A-2)**

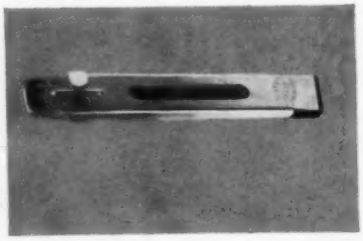


▲ **New copying unit**
The Copyflex 500 is a new addition to the line of diazo process direct reproduction machines made by the Charles Bruning Co., Inc., 4700 Montrose Ave., Chicago. It takes copy up to 42 in. wide at speeds to 40 ft. a min. **(A-6)**

▼ **Magazine-type eraser**
This eraser consists of a nickel-plated steel holder about 4 in. long, which holds a rubber filler that can be advanced as it wears. It is offered by F & L Distributors, 721 Wigwam Lane, Stratford, Conn. **(A-7)**

New for the office

◀ **Grand total machine**
This is the Model 241E Addo-X Grand Total Machine, now being introduced by the Addo Machine Co., Inc., 145 W. 57th St., New York. It permits the user to add a series of totals in the second register and to obtain a final accumulation of totals. **(A-3)**



Microfilm readers

◀ Burroughs Corp., 6071 Second Ave., Detroit, offers a new microfilm recorder and reader designed to provide a flexible and inexpensive microfilming system. The Model B. H. 205 reader is shown here. **(A-4)**

▶ Filmsort, Div. of Dexter Folder Co., Pearl River, N. Y., offers this desk-top reader, the Inspector "200," which doubles as a photocopier, making enlarged prints directly from microfilm. It can accommodate all Filmsort Jackets and Aperture cards. **(A-5)**

If further information is desired, use Reader Inquiry Card on page 78

▲ Storage cabinet

The Maine Mfg. Co., Nashua, N. H., has announced a new line of heavy-gauge steel office furniture, of which this No. 624-DD White Mountain storage cabinet is typical. **(B-1)**

▲ Terminal digit unit

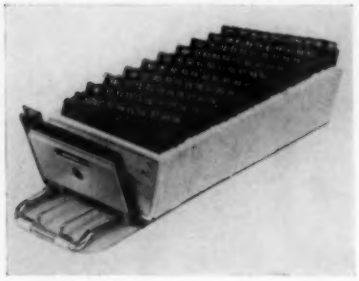
This Paragon 1C automatic hand numbering machine, specially designed for terminal digit indexing systems, is made by William A. Force & Co., Inc., 216 Nicholas Ave., Brooklyn, N. Y. **(B-2)**

▶ Wall Safe

Shown is the Kwikset Secure-All Safe, designed to fit into any standard 4-in. wall, offered by Kwikset Sales & Service Co., Anaheim, Calif. **(B-3)**

▶ Electric typewriter

"Keyboard Control," providing complete control of typing functions from the keyboard, is a feature of the new electric typewriter made by Smith-Corona Inc., 701 E. Washington St., Syracuse, N. Y. The keyboard has 88 characters. **(B-4)**

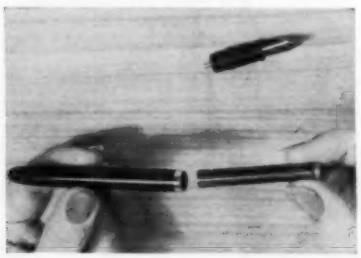


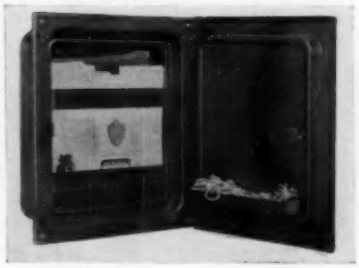
▲ Vertical sorter

This vertical sorter, made by The Kohlhaas Co., 8012 S. Chicago Ave., Chicago, is designed for three-step sorting of consecutively numbered media. Alphabetical and other classifications are also offered. **(B-5)**

▼ Cartridge pen

The W. A. Sheaffer Pen Co., Fort Madison, Iowa, has brought out a popular-priced pen which uses ink in cartridges. The cartridges are translucent, to show the amount of ink left, and are readily changed. The pen is priced at $2.95., cartridges at 4 for 49 cents. **(B-6)**





▲ Squeeze bottle ink

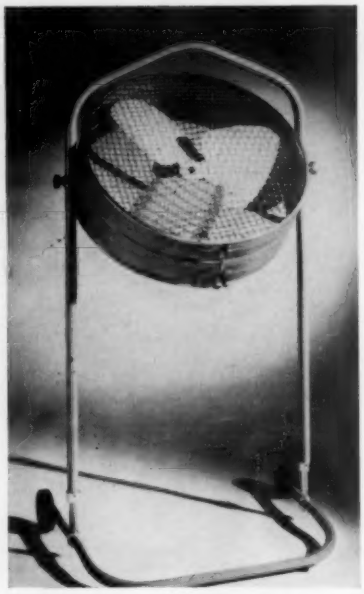
The Carter's Ink Co., 239 First St., Cambridge, Mass., now offers drawing ink in a squeeze bottle which makes it possible to fill a pen or other instrument without spilling, and also prevents dry-out. Ink is electro-polarized, eliminating shaking. **(B-7)**

▼ Mailing unit

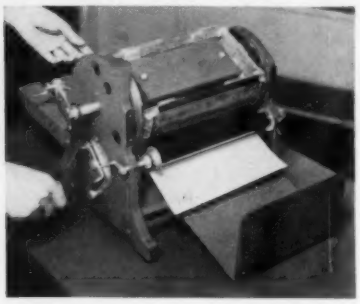
This Magic Mailer is designed to seal or open envelopes in one simple stroke. Outgoing envelopes are ready for stamping, since unit has built-in stamp moistener. It is made by the Pres-To-Line Corp. of America, 2339 Cotner Ave., Los Angeles. **(B-8)**

If further information is desired, use Reader Inquiry Card on page 78

▲ "Brush-on" stencil
Gestetner Duplicator Corp., 50 McLean Ave., Yonkers, N. Y., has introduced a means of "cutting" a stencil by brushing the desired pattern on the stencil with a special ink. **(C-1)**

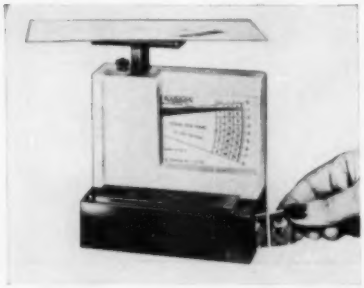


◀ Roll-about fan
This 20-in. fan is a product of the Precision Equipment Co., 3716 N. Milwaukee Ave., Chicago. It is designed to deliver 3,950 cu. ft. of air a minute. The two-speed motor is cushioned in rubber for quiet operation. The fan is mounted on rubber wheels, and is priced at $39.95. **(C-5)**



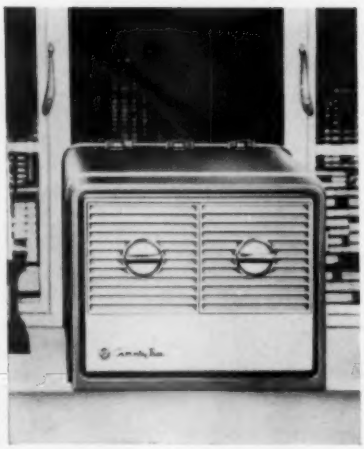
▲ Relief process duplicator
The Model 110 Multigraph prints, through a ribbon, from embossed metal plates, each of which can write nine lines with a line capacity of 88 elite character spaces. Designed for writing repetitive information, it is a new product of the Addressograph-Multigraph Corp., 1200 Babbit Rd., Cleveland. **(C-6)**

▼ Postal scale
This postal scale has a base to hold stamps, air mail stickers, clips, pins and other items. The manufacturer is the Hanson Scale Co., 1777 Shermer Rd., Northbrook, Ill. **(C-2)**



▼ Filing cabinet
The Harriman Chair Mfg. Co., Harriman, Tenn., offers this Nu Way filing cabinet designed to accommodate hanging files. It is made of plywood, and is covered with vinyl plastic leatherette. Lock and casters are available. **(C-3)**

▼ Electric collator
The Collamatic Corp., Wayne, N. J., has introduced a new electric office collating machine, the Model 800. It is designed to collate 8,000 sheets an hour. Features, some of them optional, include an automatic counter and a stapling-stacking bin which accommodates an automatic or hand stapler. **(C-7)**



◀ Casement air conditioner
The Radio Corp. of America, Camden, N. J., has begun production of its first casement window air conditioners, which are available in ½ and ¾ h.p. models. They can also be installed in conventional double-hung windows. **(C-4)**

If further information is desired, use Reader Inquiry Card on page 78

Executive furniture

This is a view in the recently opened New York offices of the Executive Furniture Guild, designed by Macey- Fowler, Inc. The office shown is that of Sydney S. Baron, public relations counsel for the Guild. A notable feature is the desk, which is usually large, yet which, because of its good balance and lines, does not appear to be out of proportion. The color scheme is blue and grey, while the chairs are upholstered in black leather. The furniture is from Stow & Davis, while other elements were provided by the Guild itself. The new offices are located at 141 E. 44th St., New York. The Guild has its headquarters in Grand Rapids, Mich.

"Convertible" chair

The B. L. Marble Chair Co., Bedford, Ohio, offers the "Convertible" line of chairs, including swivel, arm, and side models. Their special feature is that the seats and backs can be easily removed and replaced. A wide range of wood and upholstered seats and backs are available. **(D-1)**

Plastic wall covering

Bolta Products, Lawrence, Mass., a division of The General Tire & Rubber Co., announces that four new colors have been made available in its Bamboo pattern Bolta-Wall vinyl wall covering line. The new colors are April Yellow, Light Blue, Mojave Sand, and Deep Green. This brings the total to nine. **(D-2)**

New chairs

Shown at the left are two new chairs manufactured by the Johnson Chair Co., Room 7109 Merchandise Mart, Chicago. The design is contemporary without being ultra-modern, with a touch of the Swedish Modern influence. The chairs are made in walnut, and are obtainable in finishes to match any desk. Available upholstery includes top grain leather, smooth grain buff, elastic Naugahyde, or fabric. The chairs pictured here are identified as Nos. 1531 and 1532 of the Glenbrook series. **(D-3)**

If further information is desired, use Reader Inquiry Card on page 78

Part 2

Socio-perception: key to good human relations

by Eugene E. Jennings
Associate Professor of Management,
Michigan State College, East Lansing, Michigan

In the first instalment of this series, Professor Jennings reviewed the necessity of the office executive's increasing his understanding of human relations, and cited some of the common misconceptions about human relations that can lead to misunderstanding and tension in business groups—

"People are constantly changing . . . "

THAT THE subtlety of human nature is greater many times over than the subtlety of our senses should not preclude the use of observation as a major source of acquiring knowledge and understanding human relations. Rather, it should challenge us in our use of observation to be aware of certain principles of perception which allow us to be more accurate in our evaluations of other people's conduct.

1. *Principle of context*: In sizing up the activities of people about us the first principle of socio-perception is context. In the office there are two fundamental kinds of social objects—individuals and groups. When one talks about groups he is not talking about numbers of people, but rather about the manner in which the individuals, regardless of number, are related. To understand the individual we must study him in his group setting; to understand the group we must study the individuals whose interrelated actions constitute it. What this principle means is that human relations problems do not arise alone from within the individual but also from his relationships with others.

People must be viewed in context

In order to sharpen socio-perception the office executive must be oriented to seeing not isolated individuals but rather the manner in which they relate to others and others relate to them. After all, there are really no "crazy" people, but rather only people with crazy behavior. If we view people piecemeal we cannot see what causes their crazy behavior, but if we view people in context with others we are able to note the forces that at times cause people to behave unwisely and differently.

A business and industrial organization is the order and relationship of people among themselves. Manage-

ment is a process of relating people to people. Knowing their relationships can pin-point efficiency and inefficiency and help predict future difficulties. As Stuart Chase suggests, the meaning of any event in management is not something fixed but shifts with the context or the operations being performed at the time. Elton Mayo concludes that a vivid awareness of context is the primary condition of effective observation.

Freud, of course, believed that human problems could be traced to human relationships both past and present. "The troubled people who come through the doors of the counseling center, mental hospital, and psychiatrist's office . . . share one problem; they all suffer from some acute disturbance in their human relationships. They do not feel close to anyone—themselves, or anyone else." The executive who comes to fully understand that he is not working with disturbed people, but rather people with disturbed human and social relations, acquires a valuable tool whereby his ability to understand people and their problems can be quickened.

2. *Principle of change.* The second principle of socio-perception is the principle of change. Basic to an understanding of human behavior is an appreciation of its process (change) foundation. Careful observation of the behavior, the responses, the modes of interpretation of a person will reveal little permanence. After all, the law of life is adjust or die and certainly the poorest way to avoid difficulties is to view human conduct as static and fully predictable. As John Dewey says, change rather than fixity is now a measure of reality. Johnson in his book *People in Quandaries,* states that a scientific way of life rests squarely upon . . . a constant awareness of change, flux, process; a frank rejection of the belief that reality is basically static, that there is nothing new under the sun, that history merely repeats itself.

"The average man . . . does not really exist . . . "

Change is constant

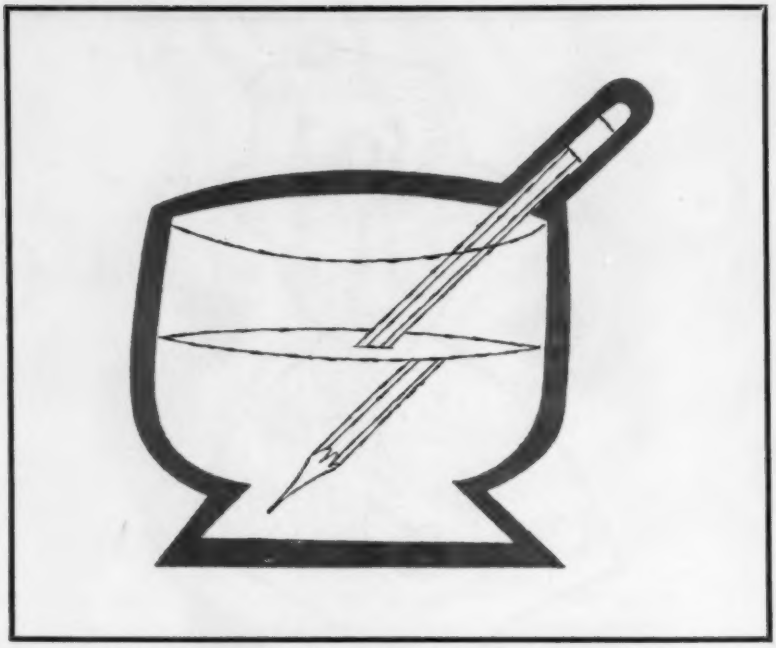
Change is universal and is most typical of human relations. Fred Fisher, who helped guide the Douglas Aircraft Company and its unions throughout five years of production stress without a work stoppage, achieved harmony not with formulas, but with a flexible and eminently practical approach, namely, "what works this week may not work next week." And, in this light, President Andre of Congoleum-Nairn says, "Do not accept status quo . . . there is nothing in our business so sacred that it will be permitted to stand in the path of progress."

The central theme of these statements is that there is no such thing as "this is it" in human relations. A better way is always a distinct possibility because people are constantly changing. Although employees need stable relations in order to have stable personalities, executives often infer a high degree of stability into their relations even though such is not present and necessary. The desire for clarity and consistency makes many an executive or supervisor perceive his and others' relationships as fairly concrete and constant.

Some executives violate this principle of change. Their behavior becomes quite rigid from day to day, and shows their feelings the same way each time. Their subordinates know what to expect, and instead of the executives handling them, the employees manage them. Rather than rigidity of behavior the executive needs flexibility and this can be acquired by perceiving how people and their relationships constantly change.

This is more easily said than done for many executives and supervisors. Coping with people involves skill in observing changes and in responding appropriately. But this process of dealing with change makes thinking and acting difficult so that they steadily deny the changes that are occurring.

Although people change sometimes imperceptibly the executive who is not aware that John today may react differently from John of yesterday is leaving himself wide open for a surprise. Executives who are change-oriented are



Things are usually different from the way they seem . . .

not caught with their proverbial pants down. The common remark, "Well, how did you know this would happen?" is not a matter of using a superior mind nor a crystal ball but rather suspecting something different would occur and deducing this change from past events.

Change is challenge

Some executives are terrified by the fact that they can never have absolute understanding about people. This fear is not justifiable. Change does not terrify the physicist: it fascinates him. And change in the lives of groups and individuals does not terrify the social scientist, it merely determines the lines of his investigations. Many executives reply, "Well, I am neither a physicist nor a social scientist." The reply to this is that one who wants to understand people must necessarily have keen perception of change.

3. *Principle of Differences*: The principle of difference is in addition to the principle of change—that no one thing is ever twice the same in that two things are never identical. Many of us cannot place ourselves in other peoples' places and sense their difficulties because we do not see how their problems are unique, distinct from our problems. We actually come across so many unique problems that we are not aware of their differences. Executives who excel in sympathy and empathy are masters of discrimination. Seeing differences in people's problems is their stock in trade. They have a nose for the new, the exceptional, the fine shades of variation in the world about them and in themselves and their social relationships.

Executives who are tuned to similarities in human relations fail to see the real, important differences in life, and when their attention is called to them the differences are used to prove the exception rather than the rule. These people are "insensitive." They do not see that a "similarity" is composed of differences that don't make any difference. There is a saying that a difference, to be a difference, has "to make a difference."

An executive skilled in the principles of socio-perception will not lump apparently similar problems and people into one big category. The really important differences within one national group are greater than the differences between it and another national group. Similarly, the differences between employees are sometimes greater than between them and executives. If executives were to treat each employee's problem as different, they would accumulate experience in human relations much more rapidly than if they fail to see differences. An excellent exercise for sharpening one's socio-perception is to attempt to see differences when similarities appear.

4. *Principle of Uncertainty*: The principle of certainty is revealed in Einstein's statement that as far as the laws of mathematics refer to reality, they are not certain; as far as they are certain, they do not refer to reality. For this reason, 2 plus 2 equals 4 in principle but not necessarily in a horse trade. The next oyster is not the same as the last oyster if you have just eaten twenty-seven oysters. And how it tastes cannot be predicted from the taste of the first oyster. Heisenberg in 1927 stated the principle of uncertainty in the physical sense. "A physicist can define electron behavior accurately enough as long as he is dealing with great numbers of them. But when he tries to locate a particular electron, he cannot."

No "average man"

Thus, in the psychological sense the principle of uncertainty means that the "average" man or the group's problem or the common opinion really cannot be pin-pointed. Too many executives and supervisors poll (either verbally or by written survey) their employees and arrive at an average opinion and then make the horrible mistake of applying an essentially statistical approach to an individual. If a survey reveals the thinking of the average man, the supervisors or executive often fails to realize "the average man's" opinions are fictitious because he does not really exist. In socio-perception the principle of uncertainty prevents us from ever being sure that "this is the group's problem." We can at times be sure to a high degree, but when attempting to resolve the problems we must not forget that some or many individuals may not be presented by the "average man."

The fact that we can never be certain that we are in touch with the office group's problem is not a limitation on one's ability to socio-perceive. Rather it is merely an ultimate barrier of human nature. For this reason the executive is shooting for a "pie in the sky" objective if he thinks that because a group is basically well run everyone is happy, or because all the individuals are efficient the group is efficient.

5. *Principle of Obvious*: Aristotle believed that a man could understand nature by reasoning from "self-evident" principles. In a similar manner much of what is believed about human relations is proved by reference to something very obvious. However,

(*To page* 69)

The 702 "business" data processing machine at the new center

IBM opens New York data processing center for service, program testing

Similar centers in other cities to be opened shortly; company spokesmen predict end of distinction between scientific and business computers within few years

International Business Machines last month held a press opening for a complete new data processing center at its headquarters in New York. The center, which contains what the company calls an "integrated team" of high speed digital computers and data processing equipment, will serve as a program and testing center for companies planning to rent IBM equipment, and as a service center for companies which do not require full time processing facilities of their own.

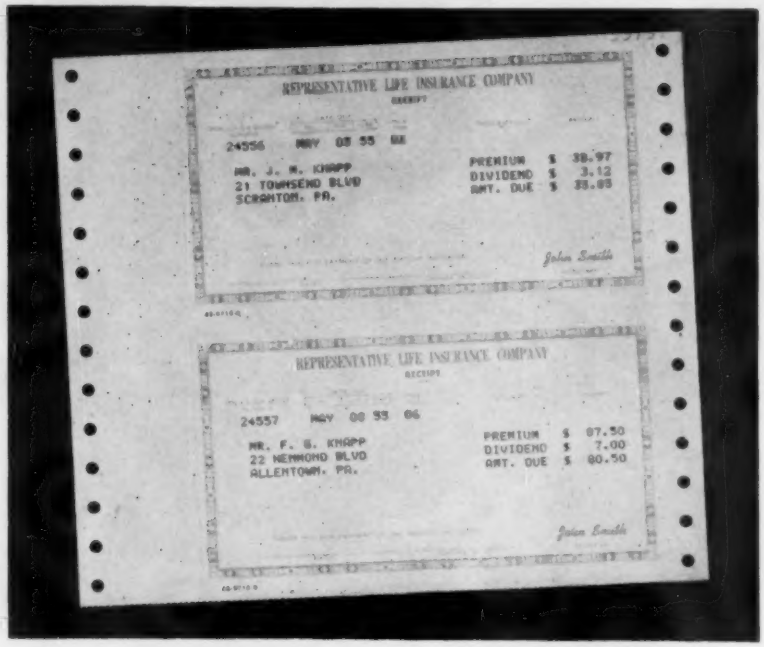
Since the center is equipped with the 702, IBM's large data processor; the 701, its calculator geared primarily for scientific applications; and the 650, the medium calculator which can be used for both routine data processing and scientific applications; as well as smaller units, IBM declares that the center is equipped with facilities to meet the processing needs of any company, or to test any possible program employing IBM electronic data processing equipment.

The New York installation is the first of several to be opened by IBM in major cities across the country. The purpose of these centers, according to company spokesmen, is to make electronic data processing "available to more companies and institutions, particularly those which need only limited use of the biggest and fastest machines."

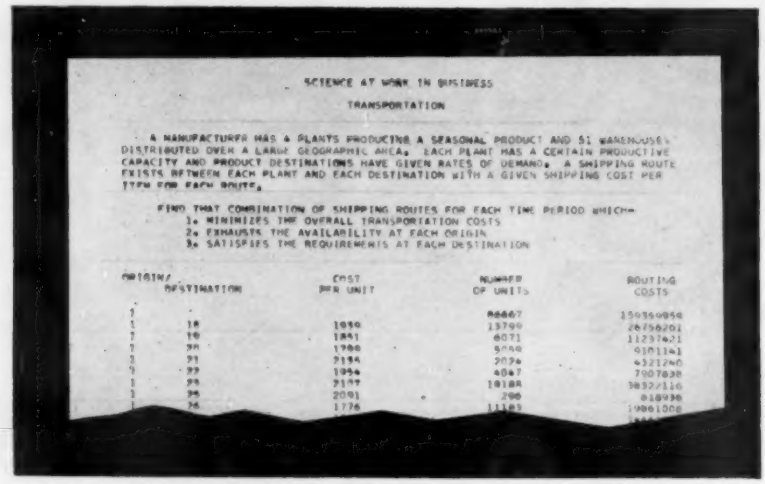
At a showing of a new IBM film, "Direct Line to Decision," which followed the opening of the new center, Dr. C. C. Hurd, director of electronic data processing machines for IBM, predicted that the current distinction between computers built primarily for data processing needs and those designed specifically for scientific research would be ended within a few years. In a later discussion with representatives of this magazine, he declared that IBM expects to be concentrating on full general purpose computers, equally adaptable to either scientific research or data processing by 1959.

According to Dr. Hurd, this will not mean concentration on only one model computer. Computers will still be built in varying sizes and with varying capacities, but the basic design of each computer will remain the same.

Current distinction between the IBM 702, which is used primarily for data processing, and the 701, which is used primarily for scientific purposes, is that the 701 has greater speed in the math-



Sample three-part form printed at rate of 1,000 lines a minute by new IBM high speed printer


SCIENCE AT WORK IN BUSINESS
TRANSPORTATION
A MANUFACTURER HAS 4 PLANTS PRODUCING A SEASONAL PRODUCT AND 51 WAREHOUSES DISTRIBUTED OVER A LARGE GEOGRAPHIC AREA. EACH PLANT HAS A CERTAIN PRODUCTIVE CAPACITY AND PRODUCT DESTINATIONS HAVE GIVEN RATES OF DEMAND. A SHIPPING ROUTE EXISTS BETWEEN EACH PLANT AND EACH DESTINATION WITH A GIVEN SHIPPING COST PER ITEM FOR EACH ROUTE.
FIND THAT COMBINATION OF SHIPPING ROUTES FOR EACH TIME PERIOD WHICH—
1. MINIMIZES THE OVERALL TRANSPORTATION COSTS
2. EXHAUSTS THE AVAILABILITY AT EACH ORIGIN
3. SATISFIES THE REQUIREMENTS AT EACH DESTINATION
ORIGIN/ DESTINATION
COST PER UNIT
NUMBER OF UNITS
ROUTING COSTS

The 701 at the press opening was used to solve a problem in minimizing shipping costs for four plants shipping to 51 destinations

ematical unit, but has lesser speed in the input and output units than the 702. However, either computer can do any problem that can be handled by the other.

The 650, though, according to Dr. Hurd, has demonstrated that a computer can be built which is equally adaptable to scientific or routine processing purposes, even though the speed and capacity of the 650 are not as high as those of either the 701 or 702.

In outlining plans for additional data processing centers, company spokesmen declared that a center with a 650 has already been established in Los Angeles, that a second center with a 650 will be established in Chicago this month, and a third in Houston in September.

The company also plans to place a 702 in some center outside New York. The location has not yet been decided.

The 701 in the New York center will be replaced by an IBM 704 this month, an advanced version of the "scientific" computer.

Also demonstrated at the opening of the new center were additional units which may be used with the IBM 650. Formerly, the machine had a punched card input and output, while the machines in the 700 series were operated by magnetic tape, and had directly coupled output printers. Now the 650 can also be equipped with tape input and output, and with a printer unit. Company spokesmen declare that this will make it possible for the machine to process data at greater speeds, will reduce file space requirements, and will offer greater flexibility in programming the machines.

IBM said that installations in which the 650 is already being used include calculation of insurance salesmen's commissions, market research analyses, payroll processing, guided missile design, customer billing for a utility company, oil refinery design and engineering calculations, analyses of flight tests made by supersonic aircraft, actuarial computations, and centralized branch store accounting.

At the press demonstration at the opening of the new center, a part of a 2400-employee payroll was run off in a few minutes on the 650. The procedure followed:

First, a master file of punched cards containing names and other fixed information on individual employees was fed into the machine. Next, a job number file was entered in the machine's memory by means of punched cards. This was followed by entry of punched cards containing the current week's operations — attendance cards, deduction adjustment cards, job tickets, and exceptions.

The information on these current cards and that on the master cards—each employee's hourly rate, standard deductions, taxes, etc.—was combined automatically by the machine, and current earnings were calculated. Then the old year-to-date earnings' cards were fed into the 650, and the machine began to produce visible results. Output, on punched cards, consisted of a current earnings cards, and a new year-to-date earnings card for each employee, as well as various job cost distribution cards. These cards, at the demonstration, were then fed into an IBM 407 accounting machine which printed the employee's checks, and departmental cost reports.

The 190-employee sample processed at the demonstration was completed in fifteen minutes. According to company spokesmen, the entire 2400-employee payroll could have been completed in three hours.

Similar demonstrations were made of

(*To page* 69)

Paperwork control—

(*From page 42*)

was prepared and published by the Bureau of the Budget for use as a training aid and as a guide in administering the program. Also invaluable is the City's annual printing requirement contract, awarded annually on competitive bidding, which sets forth the prices and charges for paper, composition, presswork and miscellaneous operations.

The objectives of the forms program are:

1. Control of the design, procurement, and use of forms
2. Coordination of forms design and control with systems, methods and procedures
3. Standardization of sizes, papers, and other physical aspects of forms
4. Standardization of forms commonly used by various City agencies
5. Elimination of unnecessary and obsolete forms
6. Improvement in the functional efficiency and appearance of forms
7. Combination or consolidation of different forms performing the same or similar functions
8. Effectuation of economies possible through proper controls.

The scope of the program includes all forms, whether purchased from commercial printers or produced on office duplicating equipment.

Stimulation of employee interest in the programs has been accomplished not only through decentralized administration but through the Employees' Suggestion Program which affords a wide base of participation. Dissemination of information about these activities through staff meetings, conferences, and training sessions has produced many acceptable ideas as well as general understanding and acceptance of the programs. Interprogram coordination has been developed to a high degree of administrative effectiveness.

Most important of the factors which have contributed to the encouraging accomplishments of the programs is the "human relations" approach which recognizes that the success of any effort depends primarily on people — well-trained, properly motivated people—who participate in the planning, direction and control of an activity toward objectives which they thoroughly understand.

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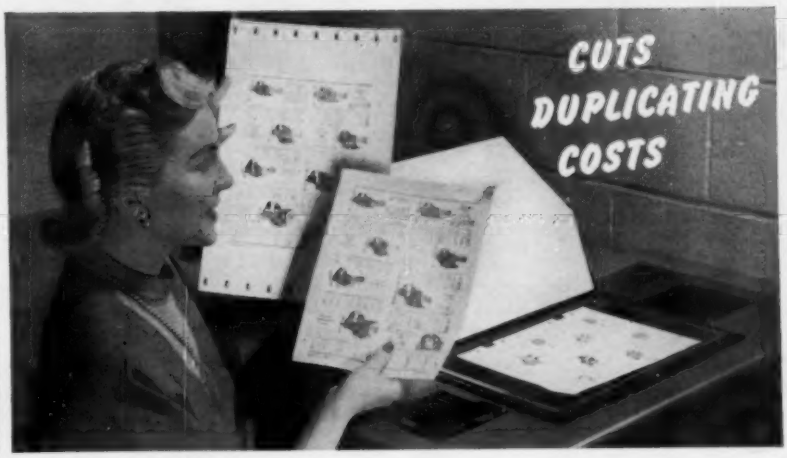

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FOR MORE INFORMATION USE READERS' INQUIRY COUPON ON PAGE 78.

Robert Q. Lewis in his new CBS office

How to make a small office look impressive

THE GIFT of having an answer to everything is invaluable to a television star like Robert Q. Lewis. It not only enables him to handle the ever-changing situations of a TV show with wit and aplomb; it also is an asset in meeting off-the-screen problems.

Mr. Lewis recently had such a problem. He needed office space for his personal use in the CBS offices in New York's Grand Central Building. But the space available was limited, and the best that could be done was to partition off a section of a large general office. It was an area which obviously had not been planned for the quarters of a celebrity.

The space offered was 14 by 18 feet in size. The ceiling was extremely high. To make such a space comfortable, attractive, and efficient was a special problem.

But there is an answer for everything. Thinking over the problem, Mr. Lewis decided to turn it—and his own thoughts on the matter—over to Michael Saphier, New York interior designer.

Mr. Saphier's answer was twofold: to use furniture of the lightest weight and simplest lines, and to employ a color scheme designed to eliminate the effect of the high ceiling.

For this purpose, he used furniture designed by George Nelson for the Herman Miller Furniture Co. Steel frames, painted white, are characteristic of it. The desk is, in essence, a table with file drawer space slung below it at the right; the office is thus not encumbered with the bulk of a standard desk. This desk has a top of micarta.

Similar light construction is used in chairs, tables, and other furniture. Cane seats and backs, used in some of the chairs, make their own contributions to the uncluttered appearance of the ensemble.

The second aspect of the designer's approach—the color scheme—is especially appropriate. The great empty space above the office is eliminated, at least visually, by the simple device of painting everything above normal ceiling height a solid, light-absorbing black. The illusion thus created of a low ceiling is remarkably effective.

By contrast, the working area is cheerfully colored. Two facing walls are white; the other two are buff. The wool rug is a rose-beige, and the upholstery is rust and tan.

Practically everything else is white, with accents chosen to give an ap-

(*To page* 69)

CHARLES R. COX

Portrait by Fabian Bachrach

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Reconditioning offices overnight

Business started in 1941 when equipment was hard to find survives as lusty enterprise serving thrifty offices

by Kim Darby

Want 65 safes re-sprayed — or do you want every last file cabinet and letter tray in your office changed to a fresh, eye-easing color? Or do you merely want a set of casters replaced in your over-worked swivel chair?

This type of work, along with furniture refinishing and upholstering, is done efficiently by a small organization, the Barkman Office Equipment Service. It is one of the few service organizations of its kind in the New York Metropolitan Area. The Barkman main office is at 5 Beekman St. A smaller office is at 210 Fifth Ave.

Julius Barkman got the idea for his business in 1941, when office people were scrambling for file cabinets to take care of mushrooming records. A lot of dilapidated steel file equipment was available, but much of it was almost worthless because of jammed drawers and worn rollers. Mr. Barkman acquired a lot of these files—gave them a thorough overhauling and resold them. Not long after that, he set up a small organization to service this file equipment of Manhattan business organizations. His "office" was a telephone number. Service men got their instructions at home.

By 1945, though, Mr. Barkman had developed additional services that enabled his organization to resurface 400 desks for a large typewriter manufacturer; re-spray the desks, file cabinets, letter trays and other steel equipment of one of the largest manufacturers of soap and detergents; re-spray 65 safes for one of the leading cigarette makers, and generally care for the office furniture of many of the city's leading business organizations—top drawer outfits that demand the best type of work and pay accordingly.

The work falls into five categories—desk refinishing, file cabinet and steel equipment re-spraying, file drawer servicing and caster replacement. Insured night crews do on-the-premises work. Where file drawers are to be serviced, efficient crews of two men come in during the office's working day and, without disturbing the records, do the lubricating and parts replacement work. The reliability of the Barkman service has been such that the company now represents some of New York's leading office furniture retailers in their service departments.

Many leading architects and office interior decorators have the Barkman organization examine clients' old equipment to determine which pieces can be retained for use in new office space. The Barkman people service and refinish these pieces according to the decorators' specifications. The Barkman Office Equipment Service sells no equipment of any kind. It is strictly a service organization.

According to Charles McDermott, manager of service operations, The Barkman company has repaired or serviced more than 800,000 file drawers in the greater New York area in the 10 years of its existence. The company has handled a total of 200,000 units—file cabinets, desks and other pieces—in its relatively brief history, he said.

Accountants—

(*From page 22*)

or goals for accomplishing the objectives is the essential and vastly important one of budgeting," Mr. Wickman said, "which must include both dollar goals and tangible, non-financial objectives. The accountant must bring to long range planning all his professional skills. He must help interpret significant national economic trends. He must assist in determining business strategy. He must encourage use of other than dollar measurements. He must understand and practice principles of good organization, stress need for individual responsibility with commensurate authority and accountability through measurement of results."

Discussing general trends in business during the past twenty-five years, and those that might be anticipated during the next twenty-five, the next speaker, W. Randle Mitchell, vice president and controller, The American Pulley Company, said that long range capital budgets for cost reduction should be established now, since more efficient production will hold down price increases and broaden markets.

"The cost accountant in the individual company must examine all selling prices in relation to profit potential," he told the group. "When necessary he must eliminate sub-marginal or unprofitable lines, and keep product lines clear of all sub-marginal items. He must stress profits before volume and keep a careful watch on our return on investment. He must emphasize selective selling to improve margins, and study carefully the implications of population factors and trends on the geographical distribution of salesmen, on distributor and dealer organizations, and on our advertising problems and our sales promotion efforts.

"Lastly and very importantly, he should step up product development and recognize at all times that not only price but quality and sound utility value will play a major part in our business future."

The last speaker on the program for the opening day, C. Oliver Wellington; partner, Scovell, Wellington and Company, New York, said that cost accountants should adapt their thinking in product costing to consider "full cost to make and sell" rather than concentrating merely on "cost to sell."

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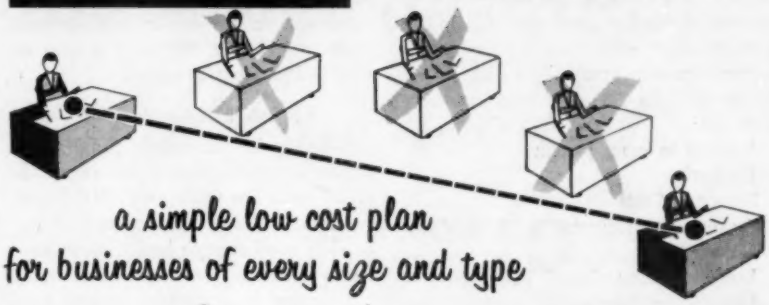

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This consideration of both sales costs and producing costs is necessary to give the clear picture needed to direct company operations into profitable product lines, he pointed out, at a time when sales costs represent a substantial portion of total business costs.

The second day of the conference was devoted to two series of eight concurrent discussion meetings. Morning groups were organized by industry types; afternoon groups by topics. Topics covered in the afternoon sessions included:

Reports to management
Budgeting
Standard Costs
Accounting Department Organization
Inventory Control and Valuation
Distribution Costing
Fixed Asset Accounting
Payroll Procedures.

The first morning speaker on Wednesday, the closing day of the conference was Marshal K. Evans, budget director, Westinghouse Electric Corp., Pittsburgh, who discussed the various accounting problems involved in appraising the performance of each company unit. The second, John F. Magee, Operations Research Group, Arthur D. Little, Inc., explained the nature of operations research with specific studies involving accounting.

Decentralization has caused many new problems for accountants, Mr. Evans told the group, since primary reasons for decentralization are pushing profit responsibility as far down in the management organization as is practicable, and also pushing responsibility for cost and expense control as far down the hierarchy as possible. This, however, makes extremely sensitive measurement and control tools necessary. Without such standards and controls, top management cannot evaluate satisfactory or unsatisfactory performance at the lower management levels which are in effect acting as semi-independent concerns.

"Problem lies within us"

"The basic accounting problem in measuring performance by organizational units lies within us," Mr. Evans continued. "It is the problem of becoming good enough businessmen ourselves so that we can view our accounting systems in terms of how well they serve management, as against how well they conform to 'accepted accounting practice.' If we solve this problem, we not only will not be 'supplemented by an engineering procedure,' but will take our rightful place in management as the 'chart and compass of business navigation'."

"Operations research is not really new," according to Mr. Magee, the last formal speaker of the conference. Its methods are "as old as experimental science itself."

"What is new," he declared, "is recognition that stable patterns of order underlie business operations, like natural phenomena, and the systematic application of methods of experimental science to the study of business operations. This application of scientific methods to business operations lays bare these patterns so that they may be used for more effective management."

Mr. Magee declared that the basic concepts of operations research are those of science. A fundamental concept is the development of the model—a simplified representation of an operation, containing only those aspects which are of primary importance to the problem under study.

A second fundamental concept, the speaker continued, is that of decision and decision making. "The element common to all true operations research problems is the existence of alternative courses of action with a choice to be made among them, the ultimate choice of the course of action lying with the executive, in view of his policies, objectives and the risks he is prepared to assume."

In outlining how the operations research function relates to the accounting or control function, Mr. Magee cited two areas where accounting and operations research units have cooperated effectively in the past—management control and data processing. Many accounting organizations have performed outstanding service in their companies in the organization of a sound management control reporting system, he said.

Data processing is another fruitful area for cooperative work between the operations research and the accounting units, the speaker pointed out. Experience shows that they can work very closely together to define functions, to

Afternoon group meeting on "Inventory Control and Valuation"

analyze reports or output needs, to lay out the system, and measure volumes, to select appropriate equipment, and ultimately, to train a data-handling unit.

The closing session of the conference on Wednesday afternoon was devoted to a panel discussion concerning preparation for improved data processing methods and equipment. Panel participants were James Thomson, United States Steel, Pittsburgh; James M. Kalbach, E. I. du Pont de Nemours and Co., Wilmington, Del.; J. D. Elliott, Detroit Edison Co.; Ralph W. Fairbanks, Fairbanks Associates, Greenwich, Conn., and James Gibbons, Price, Waterhouse and Co., New York.

I. D. P. concept reviewed

After a brief review of the concept of integrated data processing, and how capture of data at its point of origin in mechanical form can be tied into processing with electronic equipment, the session was thrown open to questions from the floor. In response to the first question—how large should a company be to justify the use of electronic data processing equipment—Mr. Gibbons predicted that the coming trend in machine manufacture would be toward production of small scale general purpose computers, costing fifty thousand dollars or less. This would mean increasing use of computers in small companies.

"There is a great deal of activity in this field and such machines have been demonstrated to be successful in payroll applications, inventory control applications, and operations which at the present time are considered to be in the province of the punch card field," he continued. "These smaller scale machines permit a more fully integrated operation than many punched card systems afford, involving concepts already mentioned, through which an application can be completely automatic from the point where all information is entered into the system to the point where the final results are displayed on the finished report."

Mr. Fairbanks, said:

"If we look at integrated data processing more as a work simplification problem, I think we might get a little different slant on it. If we say that we are going to capture information at an early point in such a way as to eliminate duplication of it as it travels through the office, we find ourselves talking about machines but, in smaller companies, the machines, in my opin-

(*To page* 64)

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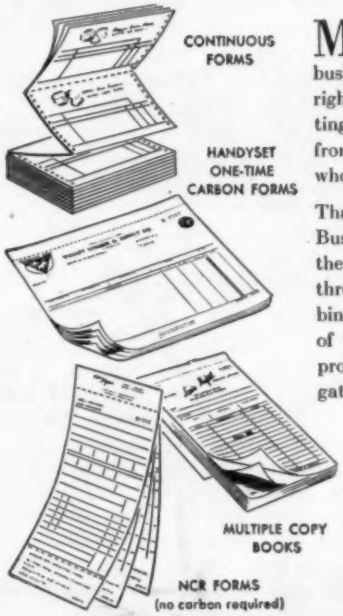

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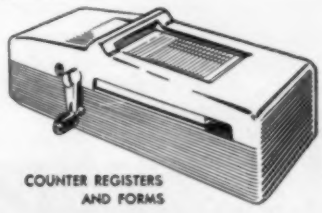

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Sylvania plans three stages of development in expanding communications—

(*From page* 14)

to meet shifting traffic patterns. It would also have to be capable of meeting expanded requirements, as the conversion of processes to automation accelerated.

Ability to carry material other than raw data: Sylvania anticipated too, because of the experience of other companies, that various messages would have to flow between the processing center and the originating and receiving points, in addition to the flow of raw data. So the system had to be flexible, not only in terms of future expansion needs, but also in terms of carrying different kinds of traffic.

And finally, there was the difficulty caused by the fact that the standard telegraph communication medium is a five channel punched paper tape, while the input mechanism of the most compatible data processor available—Remington Rand's UNIVAC — required data to be entered into the electronic data processing system on seven channel magnetic tape. This difficulty is being met by the development of a special converter by Remington Rand to convert five channel paper tape into seven channel magnetic tape.

Circuits connect installations

The communications network designed by Sylvania and Western Union to meet these needs will incorporate 12,000 miles of leased wire circuits connecting the data processing center to all company installations through relay centers. Standard five channel punched paper tape will be the communications medium used in the initial stages of establishment of the network.

In order to keep the process as completely automatic as possible, and minimize to the utmost the possibility of human error, it was decided to design the system so that automatic switching would be employed at the telegraph relay centers.

As expansion of the system proceeds, Sylvania envisages three separate stages of development. The initial design will organize all Sylvania facilities on an area basis. Fifty-one primary communication centers — data originating units—will be connected either through two relay stations at Salem, Mass., and Williamsport, Pa., to Syracuse or directly to Syracuse.

The primary function of the relay centers will be to switch traffic from each of the reporting offices in its area to the processing center at Camillus. This will be done completely automatically. All data received from originating centers will either be temporarily stored in the form of punched paper tape, or immediately switched to the processing center.

Traffic studies now being made

Detailed traffic studies are being made to determine the number of circuits required between the processing center and each of the area offices. Transmission speed between the relay centers and Camillus will be established at the rate of 100 words per minute, while incoming circuits at the area relay center from the originating centers will operate at the rate of 75 words per minute. Thus, with either two or three 75 words-per-minute services reporting to each transmission line operating at 100 words per minute, the latter can be kept operating at maximum efficiency.

Advantages foreseen by the Sylvania planners in use of the area relay centers are these:

1. The number of personnel needed at outlying points to handle all switching traffic is minimized.

2. The number of circuits terminating at the data processing center are minimized.

3. Maximum efficient use of circuits or circuit groups between the processing center and area offices is achieved.

4. The entire system meets the primary requirements of flexibility, both for expansion of service, and shifting of traffic patterns.

At the second level, as traffic increases on the system, continual studies will be made to check the network's ability to handle the increasing load. Cost studies will be made when additional circuits become necessary to determine whether replacement of groups of 100 w.p.m. circuits by single circuit high speed transmission at 600 w.p.m. is economically justified.

All of this planning is based on existing commercial equipment, but at the third and final level, Sylvania foresees development of its own communications network designed exclusively for employment of seven channel tape compatible, without use of a converter, with an electronic data processor.

Thus, when equipment has been designed that will transmit seven channel tape, creation of a source document at an originating point will produce as a by-product a seven channel punched paper tape. This tape will then be transmitted to the data processing center just as five channel tape will be in the initial and secondary stages of establishment of the Sylvania communications network.

Such tape can be used for input in the electronic data processing system, eliminating the conversion step from five channel tape to seven channel tape that will be necessary when the center first starts operations. Complete compatibility between communications system and data processing system will have been achieved.

In their preliminary report to management, the Sylvania planners outlined again the purposes and implications of electronic high speed data processors, pointing out that they were not miracle machines, that in effect they worked in very much the same way as conventional punched card machines, but that their great advantage lay in their ability to perform complicated sequential operations, such as sorting, collating, computing and summarizing, as a self-contained unit, without human intervention, and to perform all these operations at much higher speeds than any other available type of equipment. After comparison of existing types of electronic data processing equipment, in which it was pointed out that all systems have the major features of input, storage, arithmetic, control and output elements in common, it was the planners' recommendation that Remington Rand's UNIVAC be used in the Sylvania data processing system.

Final summary and recommendations of the Sylvania preliminary report were:

1. A UNIVAC Electronic Data Processing System be ordered and installed in an Electronic Data Processing Center.

2. A site be selected for the Electronic Data Processing Center, according to requirements established by a survey of operations, and constructed as required.

3. A communications company be selected to develop a communications system according to specifications.

4. A Data Processing Center staff be established with the responsibility for planning, developing and operating an office automation program.

5. A program of office automation be developed with a schedule of target dates.

6. Job requirements and job qualifications be established for the Administrative Services, in accordance with the organizational plan developed in the preliminary report.

7. Qualified people be selected as required by the program schedule to fill these jobs.

8. Informative program data be provided to administrative and operating personnel to arouse in them a desire to participate in the program.

9. Training courses be developed as required to assure maximum use of equipment.

10. A survey of operations be made;

a. to determine those that could benefit from office automation, work simplification applications as well as new types of machinery and equipment, communications and electronic data processing systems and other operating systems.

b. to determine areas of scientific and engineering application.

c. to determine methods, systems, and techniques for exploring these areas.

11. An extension of areas of integration be effected until an optimum is reached for existing factors.

Recommendations accepted

These were the recommendations, and they were accepted. The program outlined was put into operation, the work of procedure conversion begun. Conversion of procedures is being conducted in major areas; it has been going on now for several months. At present, work is being done to develop a program of computer applications on order and billing procedures, and this too is scheduled in an order of increasing technical difficulty. Thus, the first applications worked out for computer processing will cover Invoicing through Sales Accounting and Statistical Control. The next area to be programmed for the computer will be Inventory Control and Scheduling. The third will begin to explore a new phase of the computer's potential—its ability to compute probabilities, as Market Research and Sales Forecasting proce-

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dures are programmed for computer application. Finally, as the last stage, the entire Production Planning process will be made a computer application.

Thus, we have at Sylvania the program of integrated data processing in its classic aspect, with raw data—the base of a pyramid as it were—flowing toward a central point—the apex of the pyramid — where in various different combinations subjected to various different computations, it serves all management needs. The speed and directness with which it flows toward the central point and the great variety of information that can be drawn from the various calculations possible through electronic data processing equipment represent the great advantages inherent in the system.

Thus, basic sales information coming into the data processing center at Camillus, may be run through the machine a number of times. First it will be run through for the purposes of general recording and summarizing. Then the same tape carrying the same information will be run through again with a different computer program to extract information, and to perform calculations on that information, for the needs of the sales department alone. Then it can be run through again, with another program still, to extract figures, and perform other calculations, for accounting purposes. In this way, the same raw data, through various programs, and in various combinations with other data, can serve a variety of purposes.

In other words, clerical personnel and processing cannot only be eliminated to a large extent at the originating and intermediate points; they can to a large degree be replaced by machine processing at the apex point as well.

But the most significant point in the whole complex is the more complete and more timely basis given management for both its day-to-day and long range operating decisions. Not only can it have a consolidated picture of the state of company operations, taking into account more factors than could ever before be considered, but it can have this picture on the basis of information that is current rather than historical. A new flexibility of operation and decision is given management, which was never before possible.

Management by exception

Moreover, to a large degree management by exception is made a reality. In such procedures as inventories of goods held in warehouses, a listing of all items must be prepared at present. With the electronic data processor, as inventory data is fed through, the machine will report out only those quantities of items which fall below a minimum number or above a maximum number stipulated for the given items and incorporated in the program. Similar "normal areas" can be established in a wide range of activities, so that only those figures falling outside the maximum and minimum limits—data on which some action must be taken, will be read out.

Similarly, if a new product is to be introduced, all the variable factors which might affect its degree of acceptance, and its immediate potential market can be entered on the electronic data processing machine so that a range of probabilities can be presented which may determine how many units of the new product to make, how much backlog should be stocked before it is introduced, what percentage of production facilities should be reserved for continuing production.

The electronic processing system, in other words, makes much more feasible

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and much more precise the same type of linear programming that determined where the new Sylvania data processing center is to be located: mathematical weighing and evaluation of a great mass of variable factors to give the best possible prediction of the range of possibilities that may result from some action to be taken.

This, and the accuracy and immediacy of the reports which can be given management are considered by Sylvania to be the most important results to be anticipated from the system now being introduced.

Decentralized management preserved

But all of this does not imply a reversal of Sylvania's policy of decentralized management, or even a compromise with it. The data processing center will operate as just that—a center to carry out certain clerical and computing functions, the results of which will be shuttled on to management in decentralized locations for policy decision there. Thus, in forecasting degree of acceptance of a new product, the data processing center not only will not attempt to make any decision or recommendation concerning how large a quantity of the product should be manufactured before introduction on the market, it will not even attempt to forecast public acceptance except according to the formulae stipulated by the sales department. The data processing center is purely that; it will provide what it is asked for, and in predicting, it will weigh the various factors according to the equations which the department concerned thinks are most valid.

In the center to be built in Camillus, accounting and analytical functions for the entire Sylvania operation will be centralized, as will all volume clerical operations. The staff at the center will be divided into four main groups beside clerical workers: UNIVAC operations and programming personnel; systems and procedures analysts; a planning and development group; and communications technicians.

It will be a unique institution—but probably will not remain for so long. For this is almost certainly the trend of the American office, a dwindling of activities at the periphery, a concentration of processing functions at the center. Almost instantaneous communication between outlying office, processing center, and headquarters will preserve the plan of decentralized management,

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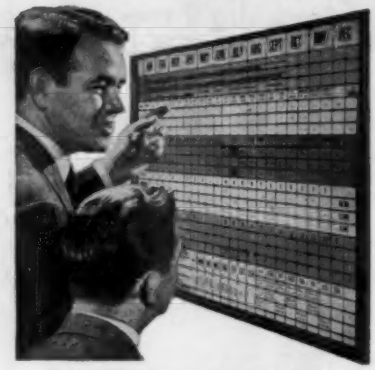

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Tomorrow's office—

(*From preceding page*)

but revise radically the picture of large offices as we have known them.

It is a development of course that has been implicit in the rapid advancement of electronic data processors, and the accompanying emergence of the system concept of integrated data processing. But it has remained more or less implicit—its actuality in a few instances disguised because conversion was taking place slowly within the walls of a conventional office carrying on its conventional routines.

As the first earth is broken this month or next at Camillus, however, we can see the age of automation in the office taking on an actuality, a degree of change that it has not achieved before. This is a new kind of "office"—one that has never been seen before—and one that probably signals the end of offices as we have known them during the past hundred years. This is the prototype of the automatic office—the first example of the office of the future.

Incentive plans—

(*From page* 27)

cial reward is certain to result in better planning of work, control of work assignments and output, utilization of personnel, control over salary recommendations, and in increasing the number of recommendations for improved methods and procedures.

Some readers who have had no experience with work measurement may be interested in some of the standards. Typing is probably the one operation performed in virtually all offices. It is not too difficult to determine the elements of this operation for timing. Standards have been developed on several bases of measurement, such as key-stroke count, number of words, standard length of lines and square inches of typed material.

Key-stroke count is probably the most accurate basis, because the operator is credited with each key punched, as determined by a counter attached to the machine. The objection is that a typist can punch "blanks" to run up the count.

Number of words as a measure is effective but involves more time unless a general average of key-stroke counts per word is used (10 words per line, 6 letters per word including the space between words.)

Number of standard-length lines is a useful measure, but the length of lines must be standardized (usually at 6 inches) or the actual lines must be converted to the accepted standard. Typists object to this method because they do not have the opportunity to balance the letter for appearance, six inches being too long for a short letter and too short for a long one.

Square inches of typed material is a relatively easy basis for measurement. A transparent scale is placed over the typed material, is registered at the upper left-hand corner, and the reading is taken from the lower right-hand corner. One square inch of single-spaced typing is equivalent to a 6 inch line (72 key-strokes of elite type and 60 of pica).

Conditions affect the accuracy of the various units of measure, but some inaccuracy in measurement is better than no measure at all.

Accountants—

(*From page* 59)

ion, are pretty much incidental. As a rule of thumb, you might say that, if the areas you can affect specifically by integrated data processing hold more manual hours than it would cost for the machines to be installed, then the overall cost picture could bear the conversion and installation of whatever equipment might be contemplated."

In reply to a question from the floor on whether it is practical to rent electronic equipment, Mr. Thomson replied:

"I would like to tell a little about our set-up in United States Steel. We have large companies and small companies. As a result of that, we have been thinking in terms of data processing centers strategically located throughout the country. For instance, here in New York, where we have five or six headquarters offices of different companies, we are working toward the idea of central processing of data. Of course, this is within a corporate structure, but there is no reason why a similar sort of arrangement could not be set up for individual small companies. Whether or not machine equipment manufacturers will expand their service bureaus to render that type of service I cannot say, but I am sure that it is in the offing, and it is a very good answer to the application of the equipment to smaller operations."

Mr. Elliott, discussing the same question, pointed out that the same amount of programming is required for a given office job on a computer regardless of the volume requirements of the job, and that this will serve to handicap the small company in computer applications.

Mr. Gibbons said that he believed the service bureaus offer the best possibilities for companies requiring solutions to "one-shot" problems. "For such problems, if they are of significance, it is worthwhile to undertake a fairly long programming operation (which can involve manual work simply to interpret the problem in terms of the machine program) requiring payment for time on the machine at the rate of anywhere from $200 to $300 an hour to work out a solution. Here the benefits to be obtained should be sufficiently large to warrant all the expense in terms of time and equipment."

Effect on decentralization

Presented with questions as to the effect of electronic data processing systems on companies with decentralized control, and whether centralized data processing with one large computer or scattered operations with several small computers is preferable, the panel offered several different answers. Mr. Fairbanks and Mr. Gibbons pointed out that decentralization of management and centralization of data processing services are not incompatible, while Mr. Thomson stated that with smaller electronic units coming on the market, decentralization of electronic data processing facilities would be possible.

The panel members declared that it was too early in the whole development of electronic data processing units for the office to say whether a given company is better off with one large computer or several small ones.

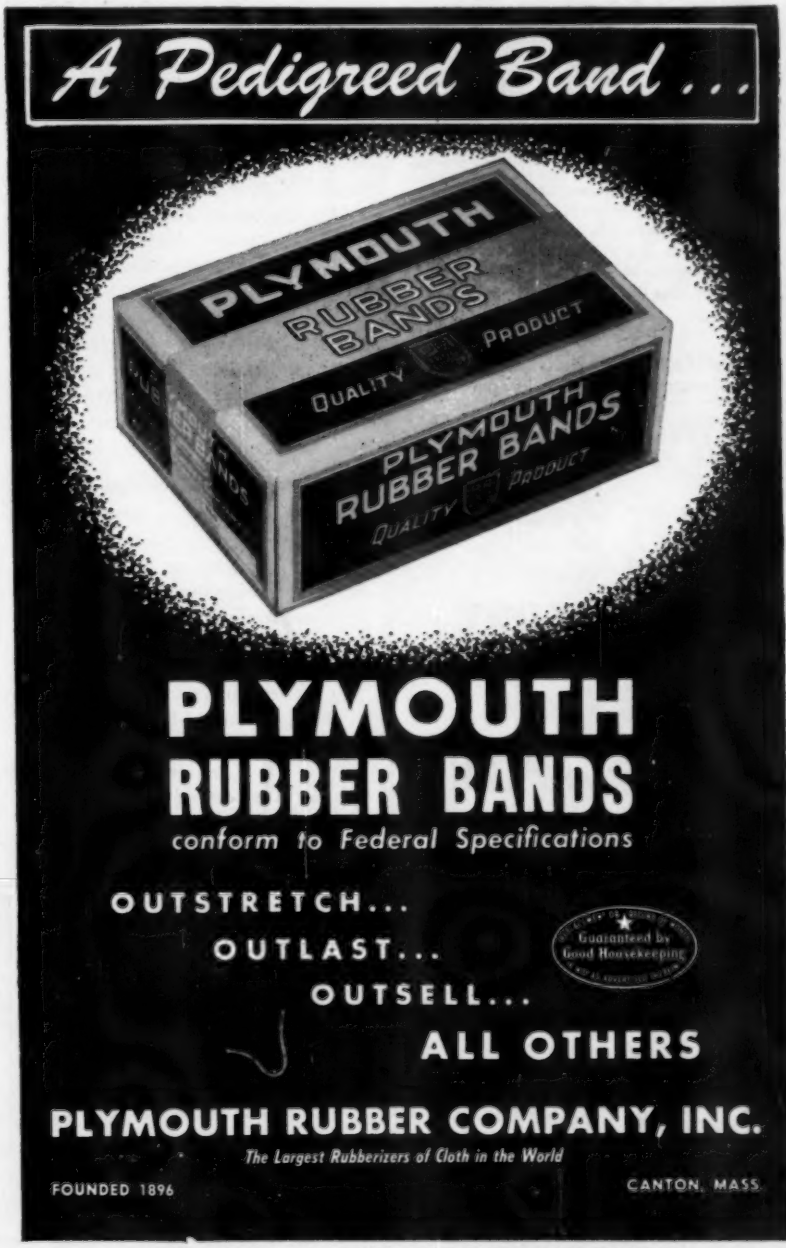
The next question from the audience, "Should electronic equipment be ordered in advance of proved economies or should advance study establish firmly the wisdom of cost economies before the order is placed?" drew a unanimous opinion from the panel members. All agreed that the entire cost picture should be worked out very carefully and very realistically before the purchase of any expensive equipment.

The matter of determining expenses and savings in electronic installations brought up the question of which should be responsible for determining costs in advance, the systems department or the accounting department.

Mr. Fairbanks, the first of the panel to discuss the question, said:

"The people who are going to work with the system have to be sold on it. They have got to know what it is about. They have to be part of the planning. There is no question about that, but obviously, they have to get a day's business out, and have limited time to look into the future. The broad, basic design has to be done by someone who has time.

"There are various levels of companies. A big company with a large staff can afford to have methods design men whose job is to sit and think with their feet on the desk. It may also have, in the various line departments, systems people working simplifications into their particular departments. And then you have the small company which cannot afford these two areas of system design men. The question there is, should the company employ someone to help with the broad design and perhaps bring one or two people within the company? Obviously, the still



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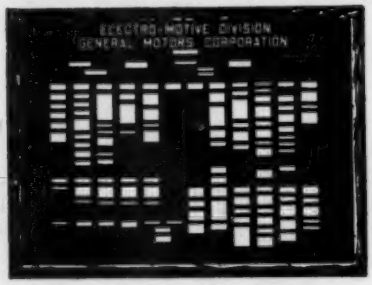

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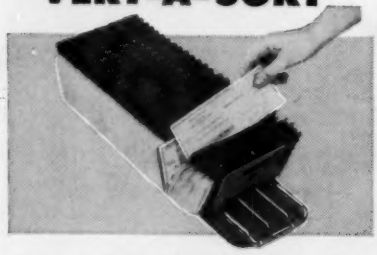

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smaller company cannot afford either approach and a line-man has to take on the problem. He has to have time to do research and find out about the field. He has to learn not only about machines but the techniques of systems design and the overall point of view. It is a very difficult question."

Mr. Gibbons, stressing again the need for a company-wide approach to major changes in the data processing pattern, said that it is often necessary to go above the departmental level in assigning responsibility for designing the new system.

"This is particularly true where the equipment under consideration is to be made to complete a variety of tasks, covering the entire range of the company's data processing problems," he said.

In a general review of the sequence of steps required in preparing for improved data processing, Mr. Kalbach said management approval of the survey to determine whether the change-over should be made is the first step. Then a complete analysis should be made of the present procedures within the company. Following that would come preparation of employees for the change. He warned that employee training is one of the most difficult problems in systems changes.

Principles should be established

Mr. Fairbanks added that he believed it extremely important in planning a new system to set up a series of principles and objectives that management wishes to see accomplished. These serve as a set of standards for judging proposed systems designs.

In answer to a question as to whether a company should delay making an installation until it can make a comprehensive one, or, conversely, should start on a piecemeal basis, Mr. Fairbanks warned:

"I think that, unless you are with a very large company and can use a piece of equipment completely on a specific job, it is a mistake to attempt to take a trial area and just find the way to set up an application in that area because you can make a false step and it costs money to convert anything. Management is not going to be particularly interested after you have made an initial step and find that it is out of line with the company's overall plan at some subsequent date. This does not necessarily mean that you should not make installations separately but they should, in my opinion, be based on an overall kind of approach."

In closing the panel discussion, Sterling K. Atkinson, session chairman, stressed again the importance of personnel in even highly automated data processing systems.

"It is the man behind the machine who counts," he declared. "What we do get out of machines and what we can do with them depends as much upon the man as it does upon the machine, if not more so."

Obsolescence—

(*From page* 21)

od or methods must be devised to eliminate the human element to a much greater degree than is available with punched card equipment if our office procedures are to be as efficient as the factory."

The present dependence on punched cards for so many statistical and accounting uses requires cumbersome office organizations, Mr. Slater said.

"In the main we must recruit female high school graduates," he said. "On the average they stay with us a few years and then move on to other jobs and stations in life, the principal one being marriage. As a result of the heavy turnover, it is necessary to break

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the various jobs down into their simplest form so that training costs can be kept low. The job must be kept simple so that it will be possible to get actual production from the new clerks in a short period of time.

"In consequence of growth it has been found advisable to functionalize our company organization," he said. "This has been necessary because present facilities of equipment are not fast enough to process our work in the required time and 80 or 90 holes in a punched card are not sufficient to carry all the information necessary on any given policy. The result has been that we use separate cards to handle specific information regarding different items that may affect a given policy. The company organization is set up correspondingly. In the case of our company, which is highly mechanized, the amount of information required to be maintained in punched cards is such that it requires in some instances as many as 25 cards per ordinary policy. If you take into consideration the large amount of information that must be used for identification purposes so that the cards can be brought together for any one policy, approximately one-third of all information is plain ordinary duplication."

Magnetic tape appears to offer much more promise as a means for storing data than punched cards Mr. Slater said. In combination with electronic equipment, it makes an approach to automation of the office possible.

"The medium of magnetic tape is such a radical departure from what was available heretofore that it becomes necessary to review all facets of our former methods of operation," Mr. Slater continued. "We should not automatically assume that because a certain item is right for punched cards it is automatically right for magnetic tapes. The actual number of machines to be used is going to be drastically reduced. Presently, at the John Hancock, we have 431 pieces of punched card equipment. It is anticipated that this number will be substantially reduced when our records are on magnetic tapes, and also that the pieces of equipment used to process the magnetic tapes will be small in number."

Mr. Slater said that John Hancock will probably operate its electronic data processing equipment for more than one shift, since studies have indicated that a one-shift operation on digital computers is not an economical approach to the problem.

Mr. Slater's speech was the main event of the opening day of the conference, Wednesday, June 15. The afternoon was devoted to a trip to Plymouth for delegates.

Panel on "Data Processing"

The Thursday morning session was given over to a panel discussion on "Automatic Data Processing—Concept and Application," while the afternoon session was broken down into Industry Conferences.

Panel participants at the morning session were R. M. Gilmore, Chrysler Corp., Detroit; B. C. Connelly, Methods Research and Analysis Branch, Air Materiel Command, Wright Patterson Air Force Base, Ohio; and J. W. Pontius, Consultant, Electronic Data Processing Development Services, General Electric Co., Schenectady, N. Y.

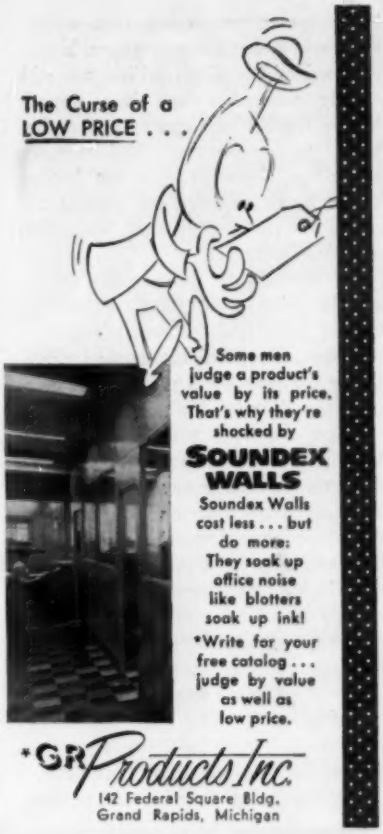
Mr. Gilmore, the first speaker, broke all data processing down into three main divisions:

1. Computation of research problems, such as those of the engineering or scientific varieties, involving advanced mathematics. These problems are characterized by relatively small input and output of data, and extremely complex calculations on the part of the machine. This type of work requires a large number of programmers on a permanent basis.

2. Data processing of business problems, such as payroll, inventory control, etc. These problems require a very high amount of input and output of data, but demand comparatively little processing of data within the machine. Programming is complicated, but once a good program has been developed, the work falls into a simple, repetitive pattern, so that few programmers are required after initial program development.

3. The intermediate area—advanced business data processing. This includes operations research or "management science." While solution of problems in this area does not demand a computer, it can be extremely helpful. Programmers must know business procedures, and must also have experience in handling mathematical equations.

One of the most controversial questions facing companies planning to install electronic data processors, Mr. Gilmore said, is the decision as to which area of operations should be converted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to computer processing first—operations which have already been highly mechanized, or those which are still largely manual. Operations already highly mechanized can often be converted to computer applications more easily than those that have not, but on the other hand, thy are usually far more efficient already than operations still largely manual.

Mr. Pontius, the second panel speaker, discussing preparation for installation of integrated data processing in a company, illustrated his theme by outlining the procedures used by his own company, General Electric.

There are three general approaches to planning for conversion to electronic data processing, the speaker continued. The company concerned can request equipment manufacturers to make surveys and submit proposals, which can then be evaluated against each other; outside consultants can be called in; the company can depend on its own staff for planning the conversion.

General Electric has followed a policy of using its own staff people, he said, because the company wants to develop its own planning personnel, so that a continuing program will be possible. Also, GE feels it is in a better position to evaluate manufacturer's proposals if it has its own staff experts on data processing. This is vital, he declared, since electronic equipment for data processing is so much more expensive in every way than any previous office equipment.

Conversion timetable

G.E.'s experience has shown that a large company should allow the following timetable for conversion to electronic data processing, Mr. Pontius said:

1. Study to determine procedural and economic feasibility of an electronic installation: two to four man years.

2. Time required for actual conversion planning: a minimum of 10-25 man years over an actual time period of at least one to two years.

Because developments are coming so fast in the data processing field, and the conclusions of today may be invalid tomorrow, Mr. Pontius emphasized, it is impossible to cut manpower requirements by spreading the effort required for study and conversion over a longer time period. Also, the more applications a company wishes to convert, the more time will be required for study and conversion.

Since expenditures for necessary equipment are so heavy, detailed analyses of the potential savings that may be expected from electronic equipment should be made for the guidance of management in making decisions as to whether or not to install such equipment.

Two groups must share in the planning and conversion process, Mr. Pontius emphasized: a group with experience in planning for integrated data processing, and an operating group familiar with the procedures to be converted.

Particular attention should be paid to analysis of the number of employees doing different kinds of work, since the greatest opportunity for savings in installation of integrated data processing occurs through reduction of the number of employees.

The final panel speaker, Mr. Connelly, discussing some of the problems that arise in converting to electronic data processing warned that electronic data processors if improperly programmed, can furnish more "wrong

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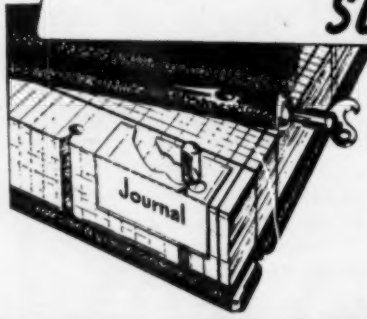

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answers" than any other system. He advised that in considering time allocations for computer applications, fifteen per cent of available machine time be alloted for preventive maintenance, and five per cent for emergencies.

The last technical session of the conference, held on Friday morning, June 17, was given over to a discussion of use of the Remington Rand File Computer, and International Business Machines electronic equipment by representatives of the two manufacturers. Speakers from both companies emphasized that present electronic data processing is making possible "in-line" operations, — the ability of the computer to complete one isolated operation independently of others. Formerly equipment limitations made "off-line" operations mandatory; a sequence of operations in which input data was "batched" and all items had to be processed together in a series of sequential steps. Thus, no individual item could be completed until the last operation in the sequence had been completed for the entire "batch" of items.

Attendance at the NMAA conference, which was held at Boston's Statler Hotel, exceeded 950.

Automation—

(*From page* 52)

the abilities of the 701 and the 702 at the opening. The 702 processed a day's activities on a 2,500 item inventory in eight minutes. The 701, within ten minutes, solved a transportation problem which involved minimizing costs for a company wishing to ship various quantities of a product from four origins to 51 destinations.

IBM spokesmen said at the opening that the equipment in the center can be used free of charge for 40 hours of machine time by companies planning to rent IBM units. This allows them to test and make any necessary corrections in their projected data processing system before putting it into operation in their own premises.

Following the press opening of the center on July 20, key executives from various industrial groups visited the center, which presented the machines' handling of problems peculiar to each industry on succeeding days.

The center will be opened to the general public on August 8.

Socio-perception—

(*From page* 50)

a major deterrent to understanding is that much of the subject matter of human relations is too obvious. Scarcely anything is more difficult to learn than something that is obvious. It is very much like trying to learn nothing at all, and it requires tremendous alertness to learn nothing.

(*To be continued*)

Small office—

(*From page* 54)

pearance of life. The drapery pattern is simple, consisting of small white and black diamonds, one lamp has a multicolored shade, another (the brass and walnut wall lamp over Mr. Lewis' desk) has an Aspenslat shade.

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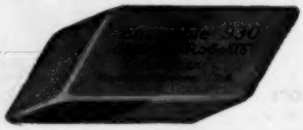

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Coming Events

Second Annual Conference on Records Management. New York, September 19-20.
Sponsors: New York University Graduate School of Business Administration; National Records Management Council, Inc. *Place*: New York University.

AMA Personnel Conference. New York, September 26-28.
Sponsor: American Management Association. *Place*: Hotel Statler.

National Employ the Physically Handicapped Week. October 2-8.
Sponsor: American Federation of the Physically Handicapped, 1370 National Press Bldg., Washington, D. C.

SPA International Systems Meeting. Detroit, October 10-12.
Sponsor: Systems and Procedures Association of America. *Place*: Sheraton Cadillac Hotel.

Governmental Purchasing Conference and Products Exhibit. Washington, October 16-19.
Sponsor: National Institute of Governmental Purchasing, Inc. *Place*: Shoreham Hotel.

AMA Office Management Conference. New York, October 17-19.
Sponsor: American Management Association. *Place*: Hotel Statler.

Rochester Business Show. Rochester, N. Y., October 20-22.
Sponsors: Rochester Chapter National Office Management Association; Rochester Chamber of Commerce. *Place*: Chamber of Commerce Building.

National Business Show. New York, October 24-28.
Sponsor: Office Executives Association of New York. *Place*: 69th and 71st Regiment Armories.

Cincinnati Business Show. Cincinnati, October 25-26.
Sponsor: Cincinnati Office and Business Equipment Show Committee, Inc. *Place*: Hotel Sheraton Gibson.

AMA Insurance Conference. Chicago, October 26-28.
Sponsor: American Management Association. *Place*: The Palmer House, Chicago.

Business Forms Convention. Edgewater Park, Miss., October 29-November 3.
Sponsor: National Business Forms Associates. *Place*: Edgewater Gulf Hotel.

San Francisco Conference and Office Equipment Show. San Francisco, November 7-9.
Sponsor: San Francisco Chapter, National Office Management Association. *Place*: Sheraton Palace Hotel.

1955 Eastern Joint Computer Conference and Exhibition. Boston, November 7-9.
Sponsors: American Institute of Electrical Engineers; Institute of Radio Engineers; Association for Computing Machinery. *Place*: Hotel Statler.

IMS Annual Time and Motion Study and Management Clinic. Chicago, November 9-11.
Sponsor: Industrial Management Society. *Place*: Sherman Hotel, Chicago.

International Automation Exposition. Chicago, November 14-17.
Sponsor: The International Automation Exposition. *Place*: Navy Pier.

Air Conditioning and Refrigeration Exposition. Atlantic City, November 28-December 1.
Sponsor: Air-Conditioning and Refrigeration Institute.

Average "middle management" man paid $11,200 a year, AMA says

The average American "middle management" business executive receives a salary of $11,200 a year, according to the American Management Association's fourth annual survey of middle management compensation, just released to subscribers by the 20,000-member management educational association.

The new survey, the most comprehensive of its kind ever made, covers the compensation paid by more than 100 American companies last year to approximately 3,200 executives in "middle management" jobs (those between the policy-making level and that of general foreman or supervisor). Typical of the positions studied are: district sales manager, plant manager, chief cost accountant, office manager, labor relations manager, divisional purchasing agent, and chief project engineer.

Other characteristics of the average "middle man of management," as indicated by the survey, include the following:

His annual salary is between $7,000 and $14,900; two-thirds of the salaries reported in the survey fall within this range. He receives much the same salary as other men in the same job with the same responsibility in other parts of the country; the survey showed little practical difference among middle management salaries as a result of variations in geographical location. Salaries do vary, however, with responsibility and among departments; for example, the average annual compensation of regional and district sales managers is $12,000, compared to $14,000 for factory managers and factory superintendents.

The average middle management man's salary is not supplemented by such forms of extra compensation as bonuses and the privilege of buying company stock; only 36 per cent of the executives surveyed received bonuses last year and even fewer were eligible for stock purchase plans. However, he probably is covered by company pension, group life, and group hospitalization programs. For the most part, he receives no additional compensation when he works overtime.

He is 45 years old and has been in his present job for four years. Seventy per cent of the executives covered by the study have been in their present positions for less than seven years.

The 1955 middle management survey covers salaries and other forms of compensation paid to middle management executives in the year that ended between December 1954 and February 1955. The individuals whose compensation was studied are found in 53 different positions in the fields of marketing, manufacturing, financial and legal, industrial relations, purchasing, and engineering and research. These 53 positions are subdivided, according to levels of responsibility, into 111 different job levels. For each job the survey reports representative salaries and minimums and maximums of salary ranges.

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HAS ONE TOO
With their TWO-PLI-TOP FOLDER

Saves space and money

The top edge and tab of Smead's TWO-PLI-TOP folders are reinforced by turning over and glueing an extra inch of stock. This gives a smooth, rolled non-cutting edge of double strength at the points of greatest wear. Made of rigid, close knit manila fiber. A medium-weight TWO-PLI-TOP FOLDER of 9½-point thickness actually provides 23 points of thickness at the tab— more than twice that of a standard single top heavy-weight 11-point folder.

NOTE THIS CONSTRUCTION!
9½ points of paper folded over and glued—with 4-point thickness of glue gives 23 points of strength at the place of greater wear.

Smead's TWO-PLI-TOP folders, medium heavy-weight 9½-point ⅔ cut tabs (illustrated) cost approximately $9.90 per thousand less than standard single top heavy-weight 11-point folders.

Smead's TWO-PLI-TOP folder with its rounded corners is a better folder than the standard single top because it is double at the point of greatest wear (the tab). Tabs will wear longer and the rolled edge eliminates cuts and scratches of file clerks' fingers.

One thousand 9½-point TWO-PLI-TOP folders will take up 3 inches less space in a standard drawer file than will be taken up by one thousand 11-point standard single top folders because the TWO-PLI-TOP is above correspondence height.

Write us today for a free sample of Smead's TWO-PLI-TOP folder. Always use a system folder—"It permits growth as needed."

THE Smead MANUFACTURING CO.
HASTINGS, MINNESOTA LOGAN, OHIO

FREE

Send us a free sample of Smead's TWO-PLI-TOP FOLDER.
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Address_____
City_____ Zone____ State_____

FILE *important cards in a* **CARD CADDY**

- High impact-strength silver-grey plastic case — blends with any office furnishings
- Aluminum drawer for easy, smooth action
- One-piece quick-set and release plastic follower-block keeps all cards erect
- Alphabetical tabs keep cards in easy-to-find order
- Outside dimensions: 4-3/4" wide, 3-1/8" deep, 9-1/2" long
- 1,000 card capacity!

A lost business card may mean a lost sale, wasted time, needless trouble. End your desk drawer clutter—file business cards in CARD CADDY for easy reference.

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A perfect gift for the busy executive or housewife. Drawer panel may be imprinted with name or initials. Satisfaction guaranteed.

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• From time to time, *Office Management* takes surveys among its readers for editorial or advertising information. Survey findings now available cover uses of offset and photocopy duplicating equipment in offices; methods that have been found best for floor care; and types of towels and soap used in office washrooms. Interested readers may obtain survey results by writing Service Dep't., *Office Management*, 212 Fifth Avenue, New York 10, N. Y.

Catalogs, Booklets, Brochures

for the office

Business Letters

Neenah Paper Co., Neenah, Wis. *The Cost of Influencing People,* a booklet on how to reduce the costs of business letters through better letter writing and use of appropriate papers.

Loose Leaf Binders

Ellingsworth Mfg. Co., 200 S. Peoria St., Chicago. Catalog covering line of Duo-Tang loose leaf covers, including material guide containing swatches of available materials and a color-selector chart.

Metered Mail

Pitney-Bowes, Inc., Walnut and Pacific Sts., Stamford, Conn. *What's Right with This Picture?,* an illustrated booklet on the advantages of using metered mail.

Business Cards

R. O. H. Hill, Inc., 270 Lafayette St., New York. *Business Card Buyers' Guide,* a kit providing guidance in the design and selection of business cards.

Rubber Mats

L. M. Bickett Co., Watertown, Wis. Folder describing the company's line of Rufbak rubber chair floor mats, including hints in the selection of color schemes.

"Junior's getting real good. He can say five and a half words a minute".

Business Interiors

S. S. Silver Interiors, 350 Butler St., Brooklyn, N. Y. *Business Interiors—Office, Store, Showroom,* booklet describing (with humorous illustrations) how efficiency of office workers can be improved by planning an effective business interior, including rent, labor, lighting, color, sound control, traffic patterns, and special equipment.

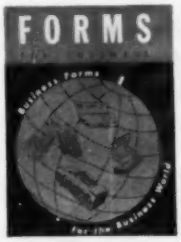
Check Writers and Signers

Todd Co., Inc., P. O. Box 910, Rochester, N. Y. Illustrated booklet on Blue Streak electric check writers and signers.

Automatic Typewriting

American Automatic Typewriter Co., 2323 N. Pulaski Rd., Chicago. *Quality with Quantity,* a 16-page illustrated booklet on the use of automatic typing for volume preparation of business letters with a personal touch.

Business Forms



The Baltimore Salesbook Co., 3120-56 Frederick Ave., Baltimore. *Forms for Business,* a booklet giving case histories on the use of business forms for a variety of applications.

Educational Booklets

Good Reading Rack Service, Inc., 76 Ninth Ave., New York. Catalog of educational booklets designed for free distribution to employees through self-service reading racks. Subjects range from automation and atomic energy to raising vegetables and planning vacations.

Storage Files

Diebold, Inc., 818 Mulberry Rd., S. E., Canton, Ohio. Four-page catalog, No. AL-2804, on SAFE-T-STAK steel storage files for low-cost storage of inactive records.

Business Films

McGraw-Hill Book Co., (Text-Film Dept.), 330 W. 42nd St., New York. *1955 Catalog, Films for Business and Industry,* listing films and filmstrips on such subjects as production control, methods analysis, employment interviews, communications, human relations, supervisory problems, salesmanship, office and business training, etc.

Business Form Design

The Baltimore Salesbook Co., 3120-56 Frederick Ave., Baltimore. Kit to help in the design of business forms. Includes a booklet called *Ten Points That Make A Business Form Click,* a composition manual, layout forms ruled in non-photographic blue ink, and other materials.

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T. M. Reg.

Your "filing and finding" problems disappear when you use Guide-O-folders in your active files. Not only do you save both time and money but you remove the drudgery from the filing department and make it a pleasant place to work.

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SUNDSTRAND.....$284091 $600,000 & over
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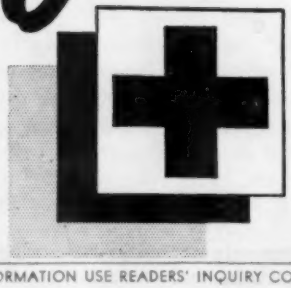

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Sales Cases

Knickerbocker Case Co., 501 W. Huron St., Chicago. Catalog describing the Knickerbocker line of 99 standard styles and sizes of sales and service cases.

Duplicating Equipment

Rex-Rotary Distributing Corp., 19 W. 31st St., New York. Literature on Rex-Rotary duplicating equipment.

Fluorescent Lighting

Ainsworth Lighting, Inc., 3810 29th St., Long Island City, N. Y. Bulletin on Budgetlite fluorescent lighting fixtures for offices.

Machine Covers

Budlew Products Co., 3535 W. Cortland St., Chicago. Catalog No. A-1955, containing information on covers for typewriters, business machines, fans, stools, etc.

Xerographic Duplication

The Haloid Co., 2-20 Haloid St., Rochester, N. Y. Case history brochure on the use of xerography by the Westinghouse Corp.

Gummed Tape Machines

Lipton Mfg. Co., Inc., 52 W. Houston St., New York. Folder on gummed tape dispensing machines, with photographs, description of operating procedures, and specifications.

Drafting Room Furniture

Stacor Equipment Co., 768-778 E. New York Ave., Brooklyn, N. Y. Catalog, illustrated, on Stacor line of Lifetime Steel Equipment, including drafting room furniture, drawing, tracing, and X-ray equipment.

Modular Furniture

Arnot-Jamestown Div., Aetna Steel Products Corp., 730 Fifth Ave., New York. Broadside, *A New Way of Life in the Office,* describing all individual components of the Arnot modular system of furniture and space division equipment.

"How's your speling?"

Utility Racks

Evans Specialty Co., Inc., 1800 E. Grace St., Richmond, Va. Catalog, *Here's Our Contribution,* covering utility racks, wall racks, desk organizers, Calca-Dial plastic computers for small payrolls, and other products.

Document Perforation

Cummins-Chicago Corp., 4740 N. Ravenswood Ave., Chicago. Series of folders describing equipment for perforating and numbering such documents as invoices, purchase orders, and other business forms.

Shelf Filing

Visi-Shelf, Inc., 105 Reade St., New York. Brochure covering the Visi-Shelf Filing System.

Office Automation

Statistical Tabulating Co., 53 W. Jackson Blvd., Chicago. *Methods, Manpower and Machines,* a booklet on the availability and use of statistical tabulating services to make it possible for even small businesses to use the high-powered business techniques developed in this age of automation.

Mailing Machine

Inserting & Mailing Machine Co., Phillipsburg, N. J. Folder, *How Small Can a Mailer Be?,* describing a case history of mechanization in the mailroom, and savings derived.

File Analysis and Reorganization

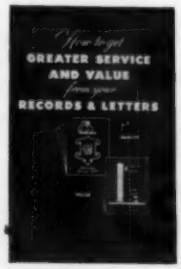
Remington Rand Inc., 315 Fourth Ave., New York. *Subject File,* folder BSD 32, telling how business and industry can use records analysis and file reorganization to increase efficiency and save money.

Graphic Arts Equipment

Harris-Seybold Co., 4510 E. 71st St., Cleveland. *Directory of Equipment for the Graphic Arts Industry,* booklet describing the complete lines of Harris offset presses, Seybold power paper cutters, Cottrell roll-fed gravure presses, and other equipment.

Selecting Stationery

L. L. Brown Paper Co., Adams, Mass. Booklet, *How to Get Greater Service and Value from Your Records & Letters,* giving information on the qualities to look for in paper to be used for various purposes, and other suggestions on how to select paper.



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Ten-second efficiency test for office managers

Got a pencil handy? Take a quick look around the office and fill out this simple check list.

Does your office have:	YES	NO
• pock-marked floors?	☐	☐
• scuff-tracks near desks?	☐	☐
• banged-up furniture legs?	☐	☐
• worn-out rugs?	☐	☐
• screeching furniture?	☐	☐
• inoperative casters?	☐	☐

Even one "yes" answer is worth doing something about. Something like letting quiet-rolling, easy-swivelling Bassick "Diamond-Arrow" casters lay the ground-work for increased office efficiency. Their soft-rubber or hard-phenolic plastic treads provide safe, sure floor protection.

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This service is provided for your convenience in obtaining complete information on the new goods reported in the editorial pages and in the advertisements of this issue. Use this form also to obtain manufacturers' catalogs and other aids reported in this issue. New Products reports, catalog offers and other aids all have numbers assigned to them in bold face type wherever they appear in the editorial columns. Advertisements are identified by their respective page numbers. Fractional advertisements are further identified by the initials of the advertiser.

JUST CIRCLE THE RESPECTIVE NUMBERS

on which you want further information; fill in your name and address below, tear out and mail to Office Management. Our office will forward your inquiries promptly to the respective companies concerned.

OFFICE MANAGEMENT

212 Fifth Avenue **New York 10, N. Y.**

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A2	4	C5
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4	6	C7
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B1	C2	
B2	C3	

Name ..... Title.....

Company .....

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August 1955 Issue.
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